ST. LOUIS DISTRICT HISTORIC PROPERTIES MANAGEMENT REPORT NO. 41

A PHASE 1 ARCHAEOLOGICAL SURVEY FOR HISTORIC PROPERTIES WITHIN THE STUMP LAKE COMPLEX, HABITAT REHABILITATION ENHANCEMENT PROJECT (HREP) POOL 26, ILLINOIS RIVER, JERSEY COUNTY, ILLINOIS

Prepared by:
American Resources Group, Ltd.
Michael J. McNerney, Principal Investigator

Authors:
Steven Titus, Mark J. Wagner, Jeffrey D. Anderson

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Steven Titus, Mark J. Wagner and Jeffrey D. Anderson

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127 N. Washington
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This report describes the results of a Phase I archaeological survey of 207 ac. within the Stump Lake Waterfowl Management Area, located in Pool 26, Illinois River (mile 7.2 to mile 12.7, left bank), Jersey County, Illinois. The project involves construction of levees, water control structures, pump stations boat ramp and access road. Pedestrian survey and screened shovel testing located one turn of the century residential/season site (11-Jy-283) determined ineligible. Geomorphological investigations identified two native ground surfaces buried beneath recent silt. Because these buried surfaces have potential to contain significant cultural resources, the project was modified to avoid them. Clearance of this project in regard to cultural resources is recommended. The survey was conducted in March 1994 by American Resources Group, Ltd., for the U.S. Army Corps of Engineers, St. Louis District on lands managed for waterfowl by the Illinois Department of Conservation. The project is planned under the Habitat Rehabilitation Project (HREP), Environmental Management Program (EMP) established to enhance and rehabilitate the Upper Mississippi River System.

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St. Louis Historic District Properties
Report Number 41

A Phase I Archaeological Survey for Historic Properties Within the Stump Lake Complex, Habitat Rehabilitation Enhancement Project (HREP), Pool 26, Illinois River, Jersey County, Illinois

Contract No. DACW43-92-D-0501
Delivery Order #3

Prepared for

US Army Corps of Engineers
St. Louis District
1222 Spruce Street
St. Louis, Missouri 63103-2833

By

American Resources Group, Ltd.
127 N. Washington Street
Carbondale, Illinois

Michael J. McNerney
Principal Investigator

Authors

Steve Titus
Mark J. Wagner
Jeffrey D. Anderson

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ABSTRACT

This report describes the results of a Phase I archaeological survey and geomorphological investigation of a 207 acre area within the Stump Lake Waterfowl Management Area, located in Pool 26, Illinois River (mile 7.2 to mile 12.7 along the left bank), Jersey County, Illinois. This work was carried out by American Resources Group, Ltd., under terms of a contract with the St. Louis District, U.S. Army Corps of Engineers.

The St. Louis District is proposing to construct a low riverside levee, seven low interior levees, nine water level control structures at six locations, and two pump stations in order to improve wetland and aquatic habitats for waterfowl and fish in the Stump Lake Complex. This project is a part of the Habitat Rehabilitation Enhancement Project (HREP), Environmental Management Program (EMP) established to enhance and rehabilitate the Upper Mississippi River system. The project area consists of the construction corridors of the levees, and the locations of the water control structures, the pump stations, and a boat ramp and access road.

The purpose of the archaeological survey was to identify, locate, and record all potentially significant historic properties within the project area, and to provide a preliminary assessment of their eligibility for listing to the National Register of Historic Places. The methods used to accomplish these objectives included a literature and records review, and complete coverage field survey. Field survey techniques used in the course of the project included systematic screened shovel testing and systematic walkover survey.

The literature and records review indicated that no previously-recorded sites are located within the project area. One site (11-Jy-283) dating to the late nineteenth to early twentieth century was recorded during the field survey. Due to its recent age and lack of integrity, site 11-Jy-283 does not appear to be potentially eligible for listing to the National Register of Historic Places. No further archaeological work is recommended at this site.

The purpose of the geomorphological investigation was to determine the relative ages of surfaces within the project area, and to evaluate the potential of those surfaces for containing cultural resources. The investigation included soil coring and backhoe trenching.

The results of the geomorphological investigation show that thick late Holocene to historical deposits are present in the project area. Two buried native surfaces were identified beneath recent deposits in backhoe trenches excavated on the natural levee paralleling the Illinois River, in the westcentral portion of the project area. The uppermost buried surface has some potential for containing cultural resources, but no cultural material was observed in this native soil during careful inspection of the walls of the three backhoe trenches in which it was identified. Geomorphological testing indicated that buried soils in the northern two-thirds of the exterior levee may contain significant cultural resources. Therefore, the Corps and State Historic Preservation Agency (SHPO) have modified the project to reduce the borrow depths from the original 4 ft to 2.5 ft in that portion of the exterior levee. In the event that the modified depth of 2.5 ft is insufficient to obtain borrow material from, all parties have agreed to archaeological monitoring of such areas. Based on

the borrow depth modification of the exterior levee, the SHPO signed off on the project in a letter dated November 8, 1994.

It appears that the construction activities associated with the proposed Stump Lake Complex HREP/EMP will have no adverse effect on significant historic properties. It is recommended that construction proceed as planned.

ACKNOWLEDGMENTS

The authors wish to thank the personnel of the Stump Lake Waterfowl Management Area for their assistance in the completion of this project. Mr. Neil Booth and Mr. Kim Postelwaite were especially helpful in apprising the authors of field conditions in the management area in the weeks immediately preceding the start of the fieldwork, and in providing a backhoe and johnboat during the fieldwork portion of the project. Mr. Dick Korunka and Mr. Randy Farley deserve special thanks for, respectively, operating the backhoe during trenching operations, and ferrying the field crew to otherwise inaccessible portions of the project area.

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CHAPTER I. INTRODUCTION

This report describes the results of a Phase I archaeological and geomorphological investigation within the Stump Lake Waterfowl Management Area, Habitat Rehabilitation Enhancement Project (HREP), Environmental Management Program (EMP) project area. The Stump Lake Complex is located in Navigation Pool 26, Illinois River (mile 7.2 to mile 12.7 along the left bank), Jersey County, Illinois (Figures 1 and 2). This research was funded by the U.S. Army Corps of Engineers and administered by the St. Louis District, St. Louis, Missouri, as part of Contract No. DACW43-92-D-0501, Delivery Order #3.

The Stump Lake Complex is located on federal lands managed by the Illinois Department of Conservation (IDOC) under a cooperative agreement with the U.S. Fish and Wildlife Service and the Corps of Engineers. The purpose of the Stump Lake Complex HREP/EMP is to improve wetland and aquatic habitats for waterfowl and fish by decreasing sedimentation and improving water level control in the five open wetland units in the complex. Accordingly, the St. Louis District is proposing to construct a low riverside (exterior) levee, seven low interior levees, nine water level control structures at six locations (A-F), two pumping stations, and a boat ramp with access road (Figure 2). The project area consists of the construction corridors of the proposed interior and exterior levees, and the locations of the proposed water control structures, pump stations, boat ramp, and access road. The total area contained in the project area is approximately 207 acres.

The study performed herein by the Contractor for the US Army Corps of Engineers is called for in the National Historic Preservation Act of 1966 (PL-89-665) as amended. Accomplishment of this work provides documentation evidencing compliance with Executive Order 11593, "Protection and Enhancement of the Cultural Environment," dated 13 May 1971, and Section 110 of the National Historic Preservation Office.

The primary objectives of the investigation were: (1) the identification and recording through Phase I pedestrian survey and shovel/soil core subsurface survey of all historic properties that are potentially eligible for the National Register of Historic Places (NRHP) that may be affected by construction (2) geomorphological investigation to document areas within the project area with little or no potential to contain historic properties; (3) documentation through archival research, subsurface testing, and visual assessment of project impacts; (4) the preparation of a scientific report of the study that meets Illinois Historic Preservation Agency (IHPA) guidelines for such studies; and (5) recommendations regarding the necessity for Phase II investigations to determine NRHP eligibility (S.O.W, Appendix A).

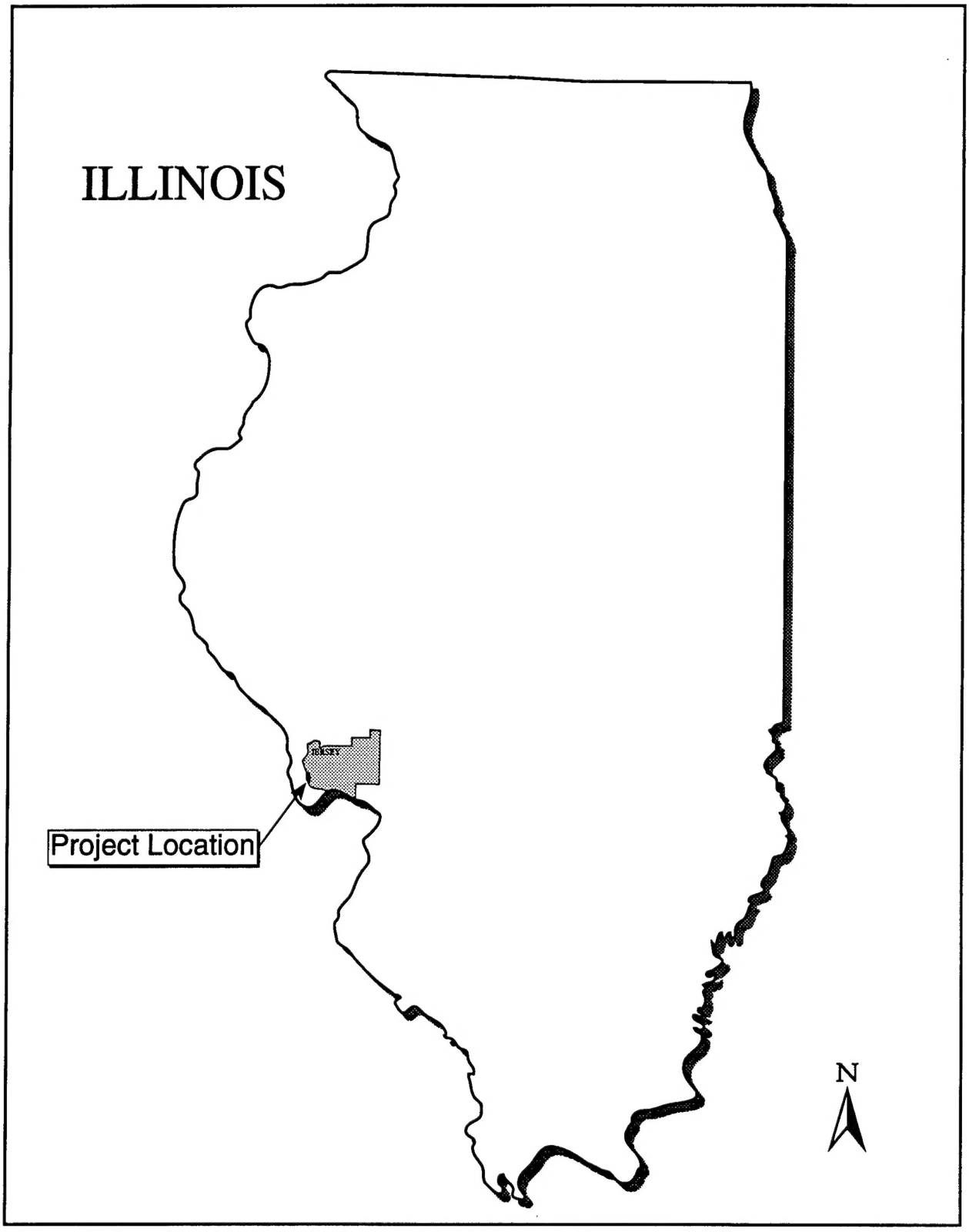
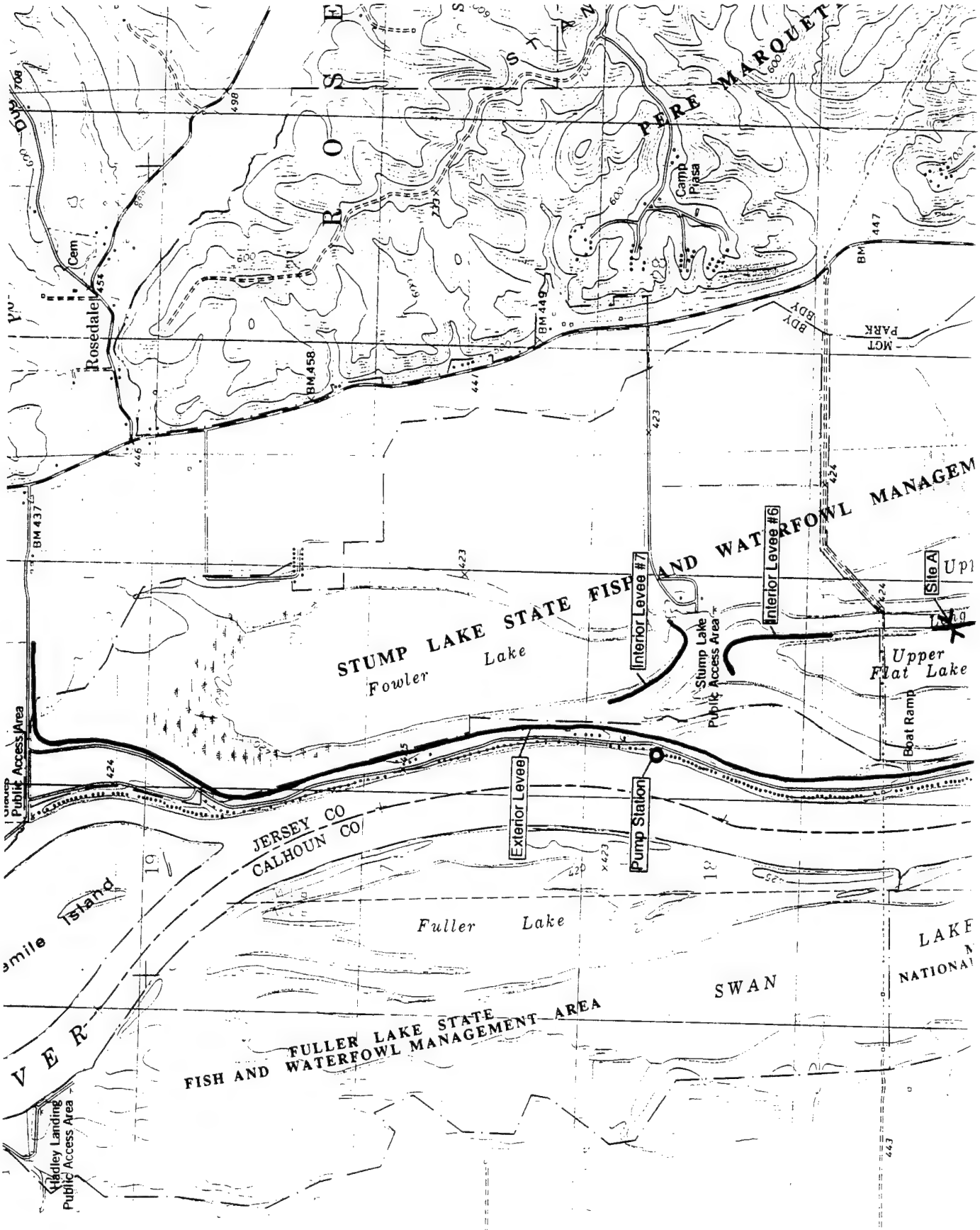


Figure 1. General location of the Stump Lake Waterfowl Management Area.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BM 437
MCT PARK
STUMP LAKE STATE FISH AND WATERFOWL MANAGEM
Interior Levee #7
Interior Levee #6
Site A
Stump Lake Public Access Area
Upper Flat Lake
Boat Ramp
Fowler Lake
Public Access Area
Exterior Levee
Pump Station
JERSEY CO
CALHOUN CO
Fuller Lake
SWAN
FULLER LAKE STATE FISH AND WATERFOWL MANAGEMENT AREA
Hadley Landing Public Access Area
Island
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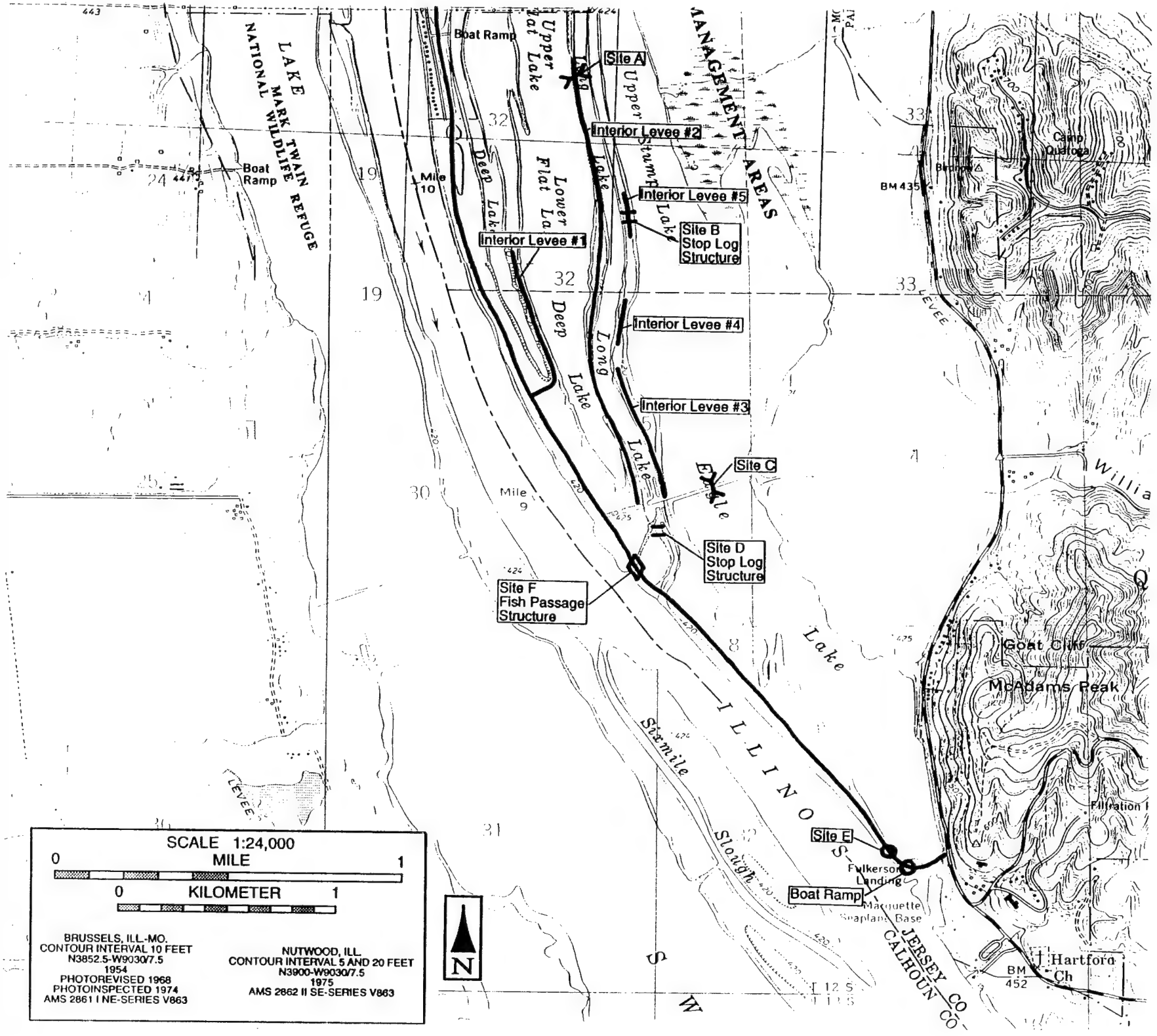
Boat Ramp
Site A
Upper Flat Lake
Interior Levee #2
Deep Lake
Lower Flat Lake
Stumpf Lake
Interior Levee #5
Site B
Stop Log
Structure
Interior Levee #1
Interior Levee #4
Long Lake
Interior Levee #3
Site C
Site D
Stop Log
Structure
Site F
Fish Passage
Structure
Site E
Boat Ramp
Fulkerson
Landing
Macquette
Seaplane Base
Goat Cliff
McAdams Peak
Camp
Quatoga
BM 435
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LAKE
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NATIONAL WILDLIFE REFUGE
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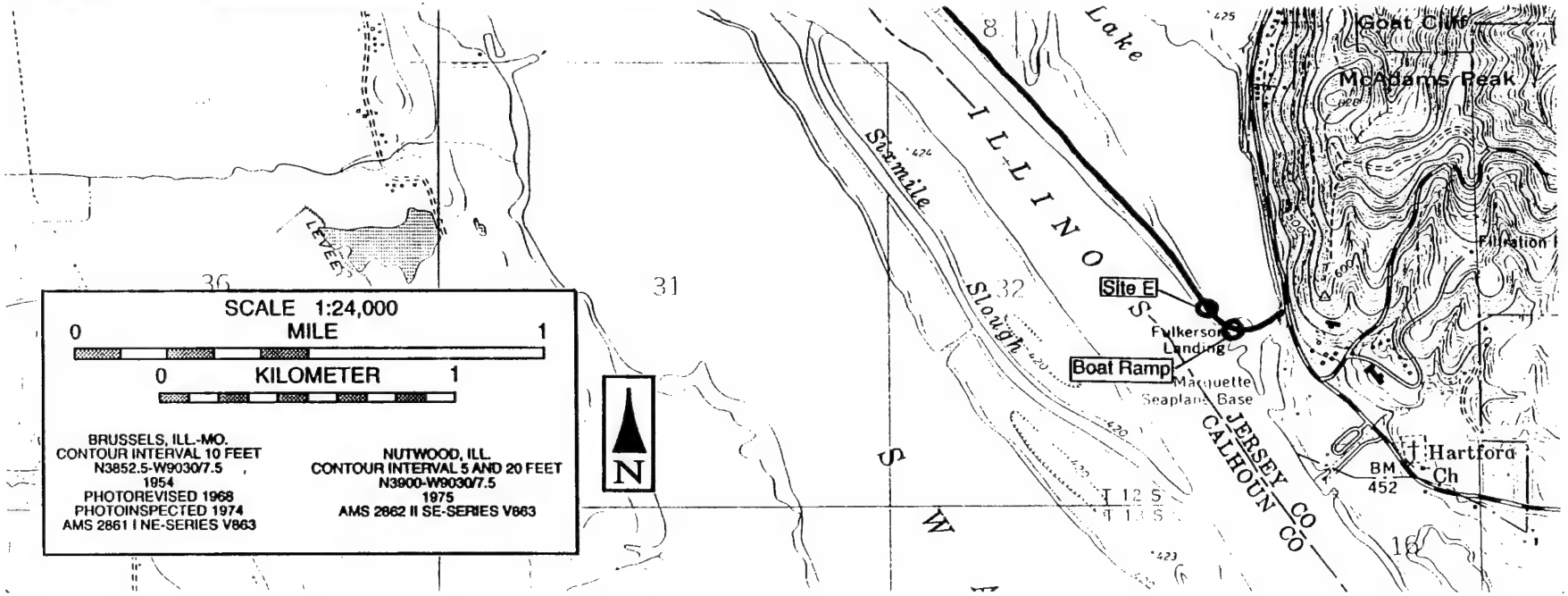

Figure 2. Topographic location of the Stump Lake Complex.

All work conformed to professional standards and guidelines set forth in the Secretary of the Interior's Standards and Guidelines for Archaeology and Historic preservation (Federal Register, 1983). The methods employed in the study were implemented in accordance with the specifications presented in Sections 4 and 7 of the project scope of work (Appendix A).

The natural environment of the project area is briefly summarized in Chapter II. The research design of the project, including the field and laboratory methods employed in the study, are presented in detail in Chapter III. Previous archaeological research in the project area and a historical overview of Jersey County that provide a cultural context for the archaeological survey are presented in Chapter IV. The results of the archaeological field investigation, including physical descriptions of each site, sketch maps, and artifact inventories, are presented in Chapter V. The results of the geomorphological investigation and modification of the project to reduce the borrow depths from the original 4 ft to 2.5 ft in the northeastern portion of the exterior levee are presented in Chapter VI. Recommendations regarding the National Register eligibility of the sites located by the survey and any need for additional work are presented in Chapter VII. The project scope of work and project correspondence are presented in Appendices A and B.

Fieldwork was conducted March 7-11, 1994. Mark J. Wagner and Michael J. McNerney are co-principal investigators, Steve Titus directed the archaeological survey, and Jeffrey D. Anderson conducted the geomorphological investigation. The survey crew consisted of Todd Ogier, Jarvis Schultz, and Steve Titus. Jim Balsitis prepared the report graphics. Mark J. Wagner wrote Chapters I-IV, Steve Titus wrote Chapters V and VII, and Jeffrey D. Anderson wrote Chapter VI.

CHAPTER II. ENVIRONMENTAL SETTING

Introduction

The project area is contained within the Stump Lake Waterfowl Management Area within the lower Illinois River Valley in southwestern Illinois (Figures 1 and 2). Comprising approximately 2,958 acres of public land, the Management Area extends from mile 7.2 to mile 12.7 along the east shore of the Illinois River in Jersey County, Illinois.

Regional Setting

The Stump Lake Waterfowl Management Area is contained within the southern portion of the Illinois River Section of the Upper Mississippi River and Illinois River Bottomlands Division (Schwegman 1973:2). The headwaters of the Illinois River are formed by the confluence of the Kankakee and Des Plains Rivers in northeastern Illinois. From that point the river flows in a southwestern direction across central and southwestern Illinois, ultimately discharging into the Mississippi River below the town of West Grafton. The channel of the Illinois River is relatively straight with meanders limited to the margins of several large channel islands. Channel width averages 350 m. Maximum depth prior to 1902 was approximately 6 m (20 ft) at bankfull stage (Butzer 1977:13).

The Illinois River valley is flanked by uplands contained within the Western Forest-Prairie and Grand Prairie Divisions (Schwegman 1973). The Western Forest-Prairie Division is underlain by Pennsylvanian and Mississippian limestone, sandstone, and shale. Numerous rock outcrops occur along the major streams. Limestone bluffs border the Illinois River Valley from its confluence with the Mississippi River to approximately 60 miles upstream to Schuyler County (Krey and Lamar 1925). Sandstone of the St. Peter Sandstone Formation, most commonly measuring from 100 to 200 feet thick, is exposed in sections of the upper Illinois River valley. Exposed outcroppings of this material occur in the form of sandstone bluffs, canyons, and buttes. The most notable example of the latter type of formation is Starved Rock, a 125 ft high butte overlooking the Illinois River Valley near La Salle, Illinois (Schubert 1986:65-66). Starved Rock, which overlooks the former location of the historic Indian settlement of the Grand Village of the Kaskaskia, is reported to have been the site of a fort constructed by the French explorer La Salle in the seventeenth century.

The Illinois River valley contains extensive broad floodplains and gravel terraces formed by glacial floodwaters. Backwater lakes and spring bogs are common features along the bluff base

(Schwegman 1973:17). The general topography is one of level to rolling plains of sands deposited by glacial melt waters. Extensive low sandy terraces occur in some areas of the valley (Butzer 1977:17).

Floodplain soils within the project area are part of the Lawson-Sawmill-Darwin soil association (Fehrenbacher and Downey 1966). Specific soil types include Beaucoup silty clay loam, Darwin silty clay, and Tice silty clay loam (Fehrenbacher and Downey 1966). These are dark-colored, poorly drained bottomland soils found on level to nearly level low elevation areas in the Illinois River valley. Beaucoup soils are often underlain by a heavy silt loam that originate at an average depth of 45" below the ground surface. Wetter areas of Beaucoup silty clay loams support excellent growths of bottomland hardwood forest (Fehrenbacher and Downey 1966). The poorly drained Darwin silty clays support both woodlands and swampy areas (Fehrenbacher and Downey 1966). A long linear strip of Tice silty clay loam that parallels the Illinois River is located at the extreme western edge of the project area. These soils most commonly occur in natural levee locations (Fehrenbacher and Downey 1966).

Modern vegetation within the Illinois River valley consists of scrub forests with black and blackjack oaks as dominant species, and dry, wet, and mesic prairies. Common prairie plant species include big bluestem (Andropogen gerardic) with Indian grass (Sorghastrum nutrans), wild rye (Elymus canadensis), switch grass (Panicum verigatum), and slough grass (Spatine pectinate) as secondary grass species (Voigt and Mohlenbrock 1964:150).

The bottomland would have contained a wide range of mammalian, avian, and aquatic fauna prior to Euro-American settlement. Governor Reynolds (1882:232-233) provided the following description of the Illinois River valley as it appeared at the inception of American settlement:

> The region of the country adjacent to the Illinois River...produced the strongest vegetation in olden times of any other section of Illinois, and the rivers and swamps adjacent to it afforded the natives more support than any other part of the West. The fowls, in the spring and fall in their migrations, stopped here and the Indians killed many of them. Also a great number of musk-rats were caught in the lakes near the river, and it was conceded by all that no river in America produced as many fresh-water fish as the Illinois did. This great supply of provisions for the Indians enabled more of them to subsist in this section of the country than any other in the West.

Semiaquatic fauna that prefer a bottomland environment that would have been found in the Illinois River floodplain prior to American settlement include the mink (Mustela vison), beaver (Castor canadensis), raccoon (Procyon lotor), and muskrat (Onoodatra zibethica). Other animals that would have been available in both the bottomland as well as the uplands to the east include the opossum (Didelphia virginia), gray fox (Urocyon cineoargentus), eastern gray squirrel (Sciurius carolinesis), fox squirrel (S. niger) and southern flying squirrel (Glaucomys volans), striped skunk (Mephitis mephitis), groundhog (Marmota momax), and white-tailed deer (Odocoileus virginianus)

(Shelford 1963). Animal species now extirpated from the project area that would have represented potential food resources include the American elk (Cervus canadensis), black bear (Ursus americanus), and passenger pigeon (Ectopoistes migratorius).

Amphibians and reptiles that prefer a bottomland environment include black racer snakes, the eastern box turtle (Terrapene carolina), and the midland painted turtle (Chrysemys pictamarginata). Common avian species would have included turkey and bobwhite. Various species of geese, ducks, herons and other waterfowl that frequent the Mississippi Flyway would have been seasonally available.

Butzer (1977) has presented convincing evidence that landforms and vegetation within the Illinois River valley form a dynamic ecosystem that has experienced dramatic change through time. Ancient landforms dating back thousands of year that once represented the original ground surface now lie deeply buried beneath alluvial and colluvial sediments. More significantly, Butzer (1977) notes that modern vegetation conditions within the Illinois River valley date back only to the beginning of the Mississippian period (ca. A.D. 1000). Attempts to examine prehistoric settlement patterns prior to this date within the drainage on the basis of modern vegetation patterns or Government Land Office (GLO) data therefore may be in error.

Worthen's (1868:105) account indicates that noticeable changes in the floodplain topography had occurred by the late nineteenth century as a result of siltation caused by the flooding of the Illinois River:

> The soil on this bottom land is a deep sandy loam, formed mainly by the wash from the high lands of the adjacent bluffs, and the sediment deposited by the river, which submerges the lower portion of it during its annual overflows....The surface of these lands is gradually being elevated from year to year by the causes already alluded to; the swampy portions are filling up, and the arable land is thus constantly increasing.

Worthen's (1868:105-106) account also indicates that dramatic changes within the floodplain ecosystem occurred during the nineteenth century as the fertile river bottomland was put into cultivation and the mesic prairies destroyed:

> When the country was first settled these bottoms produced annual crops of most luxuriant grasses, growing oftentimes, in wet portions, to a height (sic) of six or eight feet, and the annual decay of so great an amount of vegetable matter upon the surface produced a malorious atmosphere that was quite deleterious to the health of the early settlers upon these lands. But when the soil was once broken and the ground brought under cultivation over a considerable portion of the surface, and the luxuriant growth of vegetation on other portions was consumed by the herds of cattle that were allowed to graze upon it, the general health of the settlers improved....

He went on to note that:

> ....large crops of corn, wheat, oats, barley, and potatoes...are often grown year after year on the same ground, without manure, and with no perceptible diminuition in the value of the crops (Worthen 1868:105).

Local Environmental Setting

A large section of floodplain and six long linear lakes--Upper and Lower Stump Lakes, Fowler Lake, Flat Lake, Long Lake, and Deep Lake--are contained within the management area. Land use within the area includes 252 acres of crop land, 1,221 acres of open wetlands and sloughs, and 1,485 acres of forest (U.S. Army Corps of Engineers 1992:ES-1). The relatively flat floodplain varies in elevation from 420 ft to 425 ft AMSL.

The annual siltation of the floodplain described by Worthen (1868) due to the flooding of the Illinois River and consequent deposition of fluvial-borne sediments on the ground surface is turning the lakes within the project area into shallow sloughs. These wetlands, which are filling in at an average rate of 0.5" per year, may ultimately become forested wetlands. Wetland forest communities consist of the silver maple-cottonwood, silver maple-cottonwood-pin oak, and willow communities. Animal species within this semi-aquatic habitat are similar to those described above for the Illinois River valley as a whole. These included wood ducks, raccoon, white-tailed deer, cottontail rabbit, foxes, tree squirrels, songbirds, turkey, salamanders, frogs, snakes, and turtles (U.S. Army Corps of Engineers 1992:15).

Open interior wetlands within the project area include previously forested areas cleared in 1938 when the Alton Pool on the Illinois River was constructed, as well as sloughs and remnants of old river channels. These wetlands support submergent, floating, and emergent-leaved plant communities. Animal species associated with this habitat include ducks, coots, rails, bitterns, herons, egrets, songbirds, hawks, osprey, insects, amphibians, reptiles, muskrat, mink, fox, raccoon, opossum, and beaver (U.S. Army Corps of Engineers 1992:15).

Approximately 245 acres of the management area consists of nonwetland upland habitat comprised of 215 acres of forest as well as 30 acres of roads, cabin sites, and parking lots (U.S. Army Corps of Engineers 1992:15).

CHAPTER III. RESEARCH DESIGN AND METHODOLOGY

Introduction

The following research design is guided by the rather diverse yet interrelated variables which are inherent to the practice of cultural resources management. These variables include the contract requirements as stated in the scope of work, topographic and vegetational conditions in the study area, and the proposed level of effort.

Research Design

The general theoretical approach employed by researchers at American Resources Group, Ltd., may be classified within the cultural-ecological tradition in American archaeology. This tradition may be traced to studies of anthropological theorists such as Steward (1955), Sahlins and Service (1960), and Service (1962), and has been developed as an archaeological approach in the writings of Binford (1972), Flannery (1968), Ford (1977), and Watson et al. (1971). Cultural ecologists view culture in systemic terms and regard it as the primary mechanism by which human beings adapt to their environments. Cultures are viewed as open-ended, dynamic systems that change over time in response to environmental changes, biological constraints, and interaction with other cultural systems. Archaeological research carried out in a cultural ecological framework involves reconstructing past cultural systems in their environmental settings, charting the trajectory of change over time, and identifying sociocultural and environmental processes that can explain the change observed during the study of particular cultural systems.

In its broadest sense, archaeological research focuses on how human populations adapted to their particular environments and how the resulting cultural complexes changed through time in response to changing environmental and social conditions. Cultural changes can be inferred from the archaeological record with varying degrees of success through comparative analyses of artifactual remains as manifested by technology, settlement/subsistence systems, human biology, social organization, and ideology. It is acknowledged, however, that an overall rendering of past human organizations cannot be realized due to the limitations of archaeology and the small size (207 acres) of the project area. The information recovered by the survey may offer some information on settlement patterns (site locations) and possibly some limited information on technology (chert procurement and stone tool production) about other questions about extinct cultural systems cannot be addressed.

The research design for the current project was based on the contract requirements as specified in the project scope of work (Appendix A) and topographic and vegetational conditions in the study area. In keeping with the primary objectives as specified in the scope of work, this research effort focused on the location and assessment of cultural resources within the project area. The relatively small size of the project area limited the types of research questions asked and the types of archaeological data encountered and that can be recovered from shovel tests.

Prehistoric Sites

For the purposes of the project, a site was defined as a "spatial cluster of cultural features, items, or both" (Binford 1972:46). This definition applies to both prehistoric and historic archaeological sites. Archaeological context may be defined by including any of the following: soil staining, associated fire-cracked rock, ceramics, features, or a concentration of materials within a reasonably definable spatial boundary. Localities designated as sites may be differentiated further into site types. The following prehistoric site type model (after Binford 1980:8-10) will be used for site discussions and interpretation within the project area.

Habitation Sites. Habitation sites contain cultural deposits related to seasonal occupation and may include subsurface features. Organic staining indicative of residential structures and task-specific activities may be represented. Site size is moderate to extensive. Density of cultural debris and diversity of artifact classes are moderate to large. Two kinds of habitation sites may be defined.

Residential Base or Village. These are the hub of subsistence activities, the locus out of which foraging parties originate and where most processing, manufacturing, and maintenance activities take place (Binford 1980:9). Residential base camps may be manifested in the archaeological record as large sites with a high artifact density and a wide diversity of tools and other artifacts. Cultural features are usually present.

Field Camp. A temporary operational center for a task group which maintains itself while away from the residential base and may be expected to be further differentiated according to the nature of the resources to be procured (Binford 1980:10). The task groups may function to procure resources for social groups much larger than themselves; sites may vary considerably, depending upon the size of the group and the nature of tasks to be performed. Subsurface features may be present.

Limited Activity Sites. These sites contain no subsurface features or structures or cultural deposits of substantial integrity related to seasonal occupation on the site. Organic staining is absent. Site size is generally small and the are occupied for only a short period of time. Density of cultural debris and diversity of artifact classes are limited severely due to the extractive nature of the limited activity.

Historic Sites

Historic archaeological sites were treated similar to prehistoric sites. Based on previous investigations in southern Illinois (McCorvie 1987a; McCorvie 1989) and the historic background of the region, three types of historic sites potentially were located within the project area.

Farmstead Complex. This type of site consists of a house and associated outbuildings. House structures were either log or frame. The foundation was generally made of sandstone, limestone, or brick and was either a pier or full perimeter foundation. Outbuildings and facilities that surrounded the house structure within a 15 m radius included the smokehouse, cellar, well, cistern, and privy.

Farmsteads often contain a separate barnyard area located within a 200 m radius of the domestic area. Structures and facilities in this area included the barn, corn crib, paddocks, gardens, and fruit orchards (McCorvie et al. 1989). Located at an even greater distance from the domestic area are the fields, pastures, hog lots, and other agricultural facilities of the farmstead.

Artifacts which are present on farmsteads included nails and other construction materials; brick; sandstone; limestone; earthenware; stoneware; window glass; bottles; canning jars; pressed glass containers; metal objects; toys such as marbles, slate pencils and boards; pipes; buttons; and various domestic items. Ceramics usually represent a sizable percentage of the total number of artifacts with a larger ratio of earthenware to stoneware. A relatively high percentage of earthenware is generally a good indicator of a habitation site. The quantity and quality of artifacts reflect the economic status of the site.

Dump or Discard Locations. These sites originate strictly for the purpose of depositing refuse from other sites. Dump areas generally consist of larger objects such as worn-out machinery parts, portions of demolished outbuildings, and large household items. Gullies, ravines, or steep slopes are likely places for dumps. Smaller items such as broken ceramics are often discarded closer to the activity area.

Hunting/Fishing Camps. A "club house" is shown as being located within the project area on a 1916 map (Ogle and Company 1916). Four additional structures appear on maps dating from the late nineteenth to early twentieth century (Hassen and Schroder 1987). These may represent seasonally occupied camps for either fishing or the hunting of migratory waterfowl. Structures at these sites most likely consisted of blinds, shacks, tents and other temporary shelters such as lean-tos. The temporary nature of the occupations should be reflected in a restricted artifact inventory. Expected artifact types include personal items such as buttons and pipes as well as faunal remains, liquor bottles, cans, ammunition, and fishing tackle. Site size should be small with few or no subsurface features present.

Research Methodology

The research methodology was designed to meet a series of specific tasks including records search and literature reviews, archaeological field investigations, geomorphological investigations, laboratory analyses, report preparation, and curation of recovered materials.

Records and Literature Review

A records and literature review of the project area was conducted prior to the start of field work. The objectives of the prefield research were to determine if known archaeological sites existed within the project area. Information provided by the Illinois Historic Preservation Agency to the Corps of Engineers, St. Louis District, was consulted to obtain information regarding previously recorded archaeological sites in the project area. This revealed that there were eleven known archaeological sites within the boundaries of the Stump Lake Management Area. Review of past archaeological investigations in the area revealed that there may be additional historic sites within the project area (Hassen and Schroeder 1987). The National Register of Historic Places was studied, and it was determined that for the survey area no sites were currently on the Register nor were there any sites pending nomination for the Register.

Archival sources consulted for information on pre-settlement vegetation in the project area included the original Government Land Office (GLO) survey notes and plats, copies of which are housed at Morris Library, Southern Illinois University at Carbondale. As a part of the archival research, old maps and atlases of the region were studied for any indication of historic sites that might have been plotted there upon. Published sources consulted for background historical information included nineteenth century county atlases and plat maps housed at the Illinois State Library and Illinois State Historical Society in Springfield, Illinois (Andreas, Lyter and Company 1872; Ogle and Company 1916) and published histories of the county (Continental History Company 1885; Hamilton 1991). Information regarding the potential locations of historic structures in the project area as summarized by Hassan and Schroeder (1987) also was consulted.

Field Investigations

The archaeological survey was conducted for a period of five days between March 7 and and March 11, 1994. The total area contained in the project area is 207 acres. The project area consists of the proposed construction corridors of a low-profile earthen riverside (exterior) levee and seven low-level, earthen interior levees, six water level control structure construction locations, and the proposed construction areas of a pump station and a boat ramp with access road. Detailed descriptions of the dimensions, topography, vegetation, and soils of each of these areas are presented in Chapters V and VI.

Complete survey coverage was accomplished by a four-person field party and a geomorphologist. Survey techniques were implemented in accordance with sections 4.2 and 4.7-4.8 of the project scope of work (Appendix A). These included systematic shovel testing, systematic

walkover, and geomorphological investigations. Shovel tests are holes approximately 35 cm - 45 cm in diameter that are dug to a depth sufficient to observe culturally undisturbed soils. Contents of each shovel test were screened through 1/4" mesh to recover cultural debris. Each shovel test was backfilled after inspection of its contents was completed. Pacing was used to control the intervals between transects and shovel tests.

The boundaries of sites were defined by excavating additional tests at 5 m intervals in cardinal directions from the initial positive probe. Shovel testing along an individual transect was discontinued when two negative probes were encountered. Materials were bagged by test hole to obtain information on artifact frequency across the site. A sketch map showing the location of the shovel tests was prepared in the field.

Laboratory Analysis

This task consisted of a comprehensive analysis of the artifacts and other site data at the facilities of American Resources Group, Ltd., Carbondale, Illinois. Recovered materials were washed, sorted, and cataloged. Prehistoric and historic materials were identified according to material, manufacture, and function.

Prehistoric Artifact Analysis. After materials were washed and labeled, they were sorted into raw material types and tool and debris categories. Raw material type for chert artifacts was determined on the basis of a comparison of the items recovered by the survey with a type collection housed at the facilities of American Resources Group, Ltd., Carbondale, Illinois. Tool and debitage categories originally defined by Koldehoff (1986) that comprised the analytical framework for the current project are as follows:

Primary Forms. This category contains unmodified chert cobbles, nodules, and blocks. Specimens smaller than 5 cm in length should be placed in the unmodified pebble category. Specimens that have had one or two flakes detached are "tested cobbles" and should be placed in the core category (see below).

Cores. A core is any cobble or piece of chert from which one or more flakes have been removed but which has not been shaped into a tool or used extensively for a task other than that of a nucleus from which flakes have been struck. Cores range from chert cobbles or chunks that have had one or more flakes removed in a random fashion (amorphous cores) to highly formalized prepared cores that produce standardized flakes (conical or blade cores). Tested cobbles are also placed in this category; these artifacts are raw pieces of chert that have had one or two flakes removed to test the knapping quality of chert.

Primary and Secondary Decortication Flakes. Amount of cortex is the distinguishing characteristic of these categories. Flakes and sizable flake fragments with greater than 50% dorsal cortex were placed within the primary decortication category, and those with 25-50% dorsal cortex

were classified as secondary decortication flakes. Primary and secondary decortication flakes represent the first series of flakes detached from a nodule or cobble.

Tertiary Flakes. Flakes within this category possess no more than 25% dorsal cortex and do not exhibit attributes typical of biface thinning and retouching (resharpening) flakes. Tertiary flakes tend to be larger and more flattened in curvature than biface flakes, and they generally have irregularly shaped platforms with less than four facets. Tertiary flakes are by-products of the early stages of biface reduction as well as by-products of simple flake-tool production.

Biface Thinning and Retouching Flakes. Flakes in these categories exhibit attributes indicating their removal during the later stages of biface production (Biface-1 Flakes) or during biface maintenance (Biface-2 Flakes). Biface flakes possess platforms with an elliptical shape, multiple facets (four or more), lipping, and acute angles. The platforms are minute sections of what was the edge of the biface. Biface-1 flakes are substantially larger and more curved than biface-2 flakes.

Broken Flakes. Flake sections that can not be readily identified as one of the above flake types were considered broken flakes. Flakes may be broken during any stage of reduction or by post-depositional factors such as trampling.

Angular Fragments. Chert fragments within this category include angular chunks and small splinters. These fragments are produced during stone tool manufacture, particularly if (1) poor quality (e.g., internally fractured) chert is used, (2) bipolar reduction is employed, and (3) lithic items are intensively reworked or recycled.

Thermal Shatter. Chert fragments and flake sections that exhibit heat-crazing, pot-lidding or discoloration resulting from burning are placed in this category. Thermal shatter may result from either intentional heat treating or burning.

Polished Flakes. These flakes are the result of hoe or adze/gouge maintenance (resharpening) and recycling.

Bladelets. Flake blades or bladelets are linear flakes that show evidence of having been detached from a prepared core: (1) length twice that of width, (2) evidence of sequential removal, and (3) small discrete platforms.

Informal Flake Tools. Flakes placed within this category functioned primarily as cutting and light-weight scraping tools with little to no prior modification. They are expedient flake-tools made from tertiary flakes, other flake types, as well as shatter.

Formal Flake Tools. Included within this category are all formalized and specialized flake tools--endscrapers, sidescrapers, gravers, denticulates, and notches or spokeshaves. Depending upon degree of modification, some of these tools could be considered expedient flake-tools, but they

are placed here because they are more specialized in their morphology (and inferred function) than the simple flake knives and scrapers in the previous category.

Hoes. Hoes are generally large bifaces (greater than 10 cm in length) that were hafted onto wooden handles and used for digging and cultivating tasks; a high-gloss use polish often developed on the hoe as a result.

Drills. These slender bifaces are formalized tools used specifically for boring holes through a variety of materials. They frequently possess haft modifications.

Adzes/Gouges. These tools are generally large bifaces (greater than 10 cm in length) that functioned as heavy woodworking equipment.

Blanks/Preforms. A biface can be defined as a flake or cobble that has had multiple flakes removed from dorsal and ventral surfaces. Bilateral symmetry and a lenticular cross-section are common attributes; however, these attributes vary with the stages of production, as do thickness and uniformity of the edge. Included in this category are unfinished hafted bifaces. This category was divided into two subcategories:

Blanks. Unfinished hafted bifaces placed in this category are thick (relative to preforms), bilaterally asymmetrical, lack a lenticular cross-section, have irregular, sinuous edges, and frequently have small amounts of cortex remaining on edges and faces. Blanks are produced during early to intermediate stage biface production.

Preforms. Unfinished hafted bifaces placed in this category exhibit the attributes that are characteristic of finished hafted bifaces, but lack a hafting element. Preforms are produced during late stage biface production.

Projectile Points/Hafted Knives. These formal tools were predominantly designed to be hafted, and they functioned as projectile points and/or knives. Included in this category are hafted bifaces that were recycled into hafted scrapers.

Unspecified Bifaces. Nondiagnostic fragments of bifacial flaked tools were placed in this category, for example, distal tips and midsections of projectile points.

Modified Cobbles. Cobble tools and cobble tool fragments make up this category. These simple tools were used with little to no prior modification for such tasks as hammering and grinding.

Historic Artifact Analysis. Historic material was identified according to material, manufacture, and function. Diagnostic material was identified and dated by the use of appropriate references. For ceramic identification and temporal affiliation, classifications and chronologies formulated by Brown (1982), Lofstrom (1976), Majewski and O'Brien (1984); McBride (1984), Price (1979), South (1977), and Wegars and Carley (1982) were utilized. Glass identification and temporal

affiliation followed studies by Deiss (1981), Lorrain (1968), and McKay (1979). Other references utilized in the functional and temporal identification of items other than ceramics and glass (e.g., Nelson 1968). The following categories were employed for the analysis of historic materials.

Ceramics. The initial identification was of ware type such as pearlware, whiteware, ironstone, porcelain, yellow ware, stoneware, coarse earthenware, or redware. Ironstone identification is problematic in historic artifact analysis; therefore, for this analysis it was defined as a high fired refined earthenware which does not exhibit porosity when touched to the tongue, can have a "cold" grayish color to the paste, and/or is identified as "ironstone" on a maker's mark. Separation of pearlwares from whitewares, also problematic, was based on the decorative type in conjunction with a bluish cast to the glaze color.

Decorative treatment was be noted for all of the ceramics and, where possible, temporal periods were assigned. A Mean Ceramic Date was calculated using South's (1977:217) formula and temporal ranges provided by Brown (1982) Lofstrom (1976),Majewski and O'Brien (1984), McBride (1984), and Price (1979). Finally, morphological aspects relating to function were identified where possible.

Glass. Glass making underwent a "revolution" of change during the nineteenth century, resulting in numerous identifiable temporal markers. These manufacturing characteristics and their respective temporal ranges were identified for bottle/jar, tableware, window, and miscellaneous glass. The color and function of the glass items also were noted. Bottle glass, in particular, was analyzed according to Deiss' (1981) classification, terminology, and definitions. A Mean Bottle Date was calculated using an adaptation of South's (1977) ceramic formula that is patterned after a study by McBride (1984).

Metal. These items were identified as to type of material (e.g., iron/steel, brass/copper, lead, tin, zinc, etc.) and function (e.g., wagon hardware, tools, nails, cutlery, etc.). The technique of manufacture was identified, where possible, especially in the identification of nail types (e.g., early machine-headed machine cut, modern machine cut, and wire nails).

Construction Materials/Minerals. This category includes brick, mortar, cement, sandstone, limestone, cinders/clinkers, and other minerals not necessarily used in construction. Aside from the basic identification of the type of materials, counts and weights of each type were noted.

Rubber/Synthetics. This category includes rubber items and those manufactured from synthetics such as vulcanized rubber, celluloid, bakelite, and the more recent thermoplastics. Items were identified as to material and function.

Curation

All artifacts or cultural materials collected during this project, as well as the project notes, photographs, and other data generated during the performance of these contract services, are being

temporarily curated at American Resources Group, Ltd. This allows access to these materials during the analysis and report writing stages of this project. The St. Louis District Corp of Engineers has a curation agreement with the Illinois State Museum, Springfield, and anticipates curating all materials from the project at that facility.

CHAPTER IV. ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

Prehistoric Overview

Archaeologists have developed a broad cultural/historical classificatory scheme with which to organize and describe the prehistory of the Midwestern and Eastern United States. The cultural periods are: Paleoindian (15,000-8000 B.C.); Early Archaic (8000-6000 B.C.); Middle Archaic (6000-3000 B.C.); Late Archaic (3000-1000 B.C.); Early Woodland (1000-400 B.C.); Middle Woodland (400 B.C.-A.D. 400); Late Woodland (A.D. 400-A.D.1000); and the Mississippian period (A.D.1000-A.D. 1600). These periods are established on the basis of cultural traits identified through archaeological research and are not to be confused with the historic tribal groups which were encountered by the first Europeans to arrive in the New World.

This long prehistoric period can be characterized by an increase in cultural complexity, beginning with small hunting and gathering societies which evolved into more complex societies. Subsistence activities began with the collecting of wild plant and animal foods and culminated with the domestication of the three major New World crops--corn, beans and squash--during the final Mississippian period. Increases in human population and trends toward urbanization were evident and reached their highest levels during the Mississippian period.

The Paleoindian period is best known from the western United States where numerous archaeological sites have produced cultural material in association with a late Pleistocene megafauna. These are the well-known Clovis and Folsom cultures associated with extinct mammoth and bison, respectively. Evidence from Kimmswick, Missouri (Graham et al. 1981) presents a picture of a varied subsistence base for Clovis culture utilizing mammals ranging from squirrels to mastodons. Major Paleoindian sites are also known from the eastern United States. However, in the Illinois River Valley, evidence of Paleo-Indian occupations are represented by surface finds of artifacts diagnostic of the period. At the present time, cultural material from the Paleoindian period has not been identified in the project area. However, it is possible that buried Paleoindian components exist in alluvial fans near the base of the bluff to the east.

The Early Archaic period in the Illinois River Valley is represented by surface finds of diagnostic tools representative of this cultural period as well as buried deposits. Dalton, Thebes, Dove-Tail, Hardin Barbed, and Agate Basin projectile points are commonly associated with the Early Archaic period. Luchterhand (1970:42) suggested that the surface distribution of Early Archaic projectile points within the Illinois River Valley indicated intensive exploitation of deer during the winter months when they aggregate in sheltered secondary valleys. More recent

evidence, however, indicates that Early Archaic occupations lie buried deeply beneath the ground in some areas of the floodplain while they are exposed on the surface in others, making interpretations of Early Archaic settlement patterns from the surface distribution of artifacts a dubious endeavor (Wiant et al. 1983:147). The Koster site, for example, contains a series of stratified deposits with associated living floors, features, artifacts, and botanical and faunal remains that extended back into the Early Archaic period (Cook 1976; Houart 1971; Phillips and Brown 1983). Evidence has been found of intensive utilization of the Illinois River floodplain during the Early Archaic period (Connor 1984; Stafford et al. 1983), primarily in the form of what appear to be small encampments designed to exploit floodplain food resources (Stafford 1989:119). Subsistence-settlement patterns were based on the scheduled exploitation of seasonally available resources through high residential mobility (Brown and Vierra 1983:190).

By 6000 B.C., the environment was essentially modern, and the Middle Archaic can be described as continuing a trend toward broad spectrum resource utilization and toward more efficient adaptation to forested environments (Caldwell 1958; Fowler 1959). In Illinois this trend is shown by the diversification of tool kits and the appearance of more ground stone artifacts, including full grooved axes (Griffin 1968). Other new artifact types include stone pendants, bannerstones, and various bone tools, such as awls, antler projectile points, atlatls, bone fish hooks, tortoise shell cups, and necklaces of mammal teeth (Griffin 1968:133).

Within the Illinois River Valley, Middle Archaic occupations have been identified at the Koster (Houart 1971) and Napoleon Hollow (Wiant et al. 1983) sites, among others. Intensive harvesting of hickory nuts occurs for the first time. Evidence of more intensive plant utilization is indicated by the recovery of small numbers of squash rinds, sumpweed seeds, and other plant remains at the Koster site. In contrast to the residential mobility of the Early Archaic period, Middle Archaic settlement patterns within the Illinois River Valley are marked by a trend toward increasing sedentism. Occupation lengthened at strategic locations in response to increasing availability of floodplain resources. Key to this development was the growth of food-rich slack water environments in the valley that resulted in a concentration on this resource zone to the exclusion of other alternatives (Brown and Vierra 1983:189-190).

The Late Archaic period (3000-1000 B.C.) in the Illinois River Valley witnessed a continuation and elaboration of the settlement and subsistence trends of the Middle Archaic period. Considerable growth in population, distinct regional adaptations, and interregional exchange systems are hallmarks of this era. Archaeological data point to a marked increase in the exploitation of plant resources.

During the Early Woodland period, the Illinois River Valley was hydrologically similar to that encountered by early nineteenth-century Euro-American settlers (Farnsworth and Asch 1986:327). Broad similarities exist among Terminal Archaic/Early Woodland (1200-600 B.C.) manifestations in west central Illinois, the Illinois River Valley, and the American Bottom. Designated the Prairie Lake culture by Farnsworth and Asch (1986:340), defining characteristics include Kampsville Barbed projectile points and Snyders Grooved plummets. Within the Illinois River Valley, Kampsville Phase Praire Lake culture sites have been documented in bluff-base

settings. Bluff top burial mounds also occur. Faunal remains indicate exploitation of a wide variety of aquatic and terrestial species while floral remains indicate plant harvesting with nut collecting as an important constituent.

Early Woodland temporal and spatial divisions recognized within the Lower Illinois River Valley include the Marion phase of the Marion Culture, the Cypress phase of the Black Sand Culture, and the Mound House phase of the Initial Havana Culture (Farnsworth and Asch 1986:331). Marion Phase sites have been identified on both the Mississippi and Illinois River floodplains. Subsistence data indicate the use of upland and bottomland plant species as well as domesticated squash, barley, and goosefoot. Although Cypress phase sites may lie buried beneath alluvial flats similar to those of the Stump Lake area, occupation of such areas was probably restricted to short-term exploitative camps (Farnsworth and Asch 1986:406).

The Middle Woodland period is the time when the Hopewellian Interaction Sphere (Struever 1964) connected distant Middle Woodland groups by a highly developed socioreligious organization. Large regional centers which exhibit groups of conical shaped burial mounds were the focal points for Hopewellian activities during this time period. Middle Woodland settlements in the lower Illinois River Valley occur in a variety of physical settings including the natural levees of the Illinois River, undissected uplands, alluvial and colluvial fans, adjacent to back water lakes, in tributary valleys, along the bluff base, and in the floodplain. Middle Woodland floodplain settlements include extractive camps located adjacent to back water lakes and possible mortuary-related sites (Farnsworth 1976; McGimsey and Wiant 1986; Stafford and Sant 1985). Subsistence data indicate intensive utilization of back water fauna, collection of hickory and hazel nuts, and cultivation of starchy seed annuals including maygrass, little barley, and goosefoot (Stafford and Sant 1985:453).

The end of the Middle Woodland (Hopewell) period at approximately A.D. 400 was marked by a reduction in interregional trade, a decrease in the complexity of ceremonial/mortuary practices, and a reduction in the elaborateness of ceramic decoration. As noted by Nassaney and Cobb (1991:2), the Late Woodland period remains "little studied and enigmatic" despite the large amount of archaeological research conducted over the past 20 years. The period traditionally has been viewed as one of social decline, the result being that "the archaeological remnants of (Late Woodland) culture are frequently studied for what they can tell us about the Hopewellian dissolution or the emergence of the Mississippian culture" (Nassaney and Cobb 1991:1). In contrast to this view, Nassaney and Cobb (1991:1, 6) have characterized the Late Woodland period as a "time of markedly uneven sociocultural development...[in which there was] considerable variation in social relations, accompanied by similar diversity in ideology, subsistence, technology, and other realms...[this] diversity...argues strongly for processes of social stability and transformation in the Southeast that are linked to ecological, political, and economic variation at both local and regional levels". In the same vein, Green (1987:2) argued that Late Woodland research has the potential to provide information on cultural change and continuity in the form of the adjustments that human societies made during this time period to a complex and changing social and biophysical environment.

The White Hall phase (A.D. 450-650) is the earliest Late Woodland phase in the lower Illinois River Valley (Styles 1981). Continuity with the preceding Middle Woodland period is reflected in a subsistence base that involved the utilization of terrestial and riverine species, nuts, and cultivated plants. Settlements tend to be small and located in a variety of ecological zones (Connor 1985:2).

The Early Bluff (A.D. 600-800) phase is characterized by an apparent population increase as reflected in an increase in the number, size, and complexity of sites. Although the subsistence base is similar to that of the preceding Late Woodland phase, the appearance of small projectile points during this time indicates the adoption of the bow and arrow. These trends continue into the Late Bluff (A.D. 800-1000) phase with the addition of maize, which supplements, but does not replace, other cultigens. Within the American Bottom to the south, the subsistence patterns and ceramic styles associated with the Late Bluff phase gradually change into those of the Mississippian pattern by the end of the Late Woodland era (Connor 1985:3).

Mississippian culture (A.D. 1000-1600) represented the culmination of social, economic, political, and technological trends begun in the Late Woodland period. This period was characterized by an increased dependency upon agriculture as a subsistence base and increased social stratification and complexity. Settlement patterns were characterized by large regional population centers surrounded by a radiating network of agricultural and special purpose sites. Large ceremonial centers, such as the Cahokia site in the American Bottom to the south, contained flat-topped temple mounds, plazas, and fortifications. These sites are thought to have functioned as central places with respect to economic as well as ceremonial activities.

Diagnostic Mississippian artifacts include shell-tempered pottery, finely-made Madison and Cahokia arrow points, and farming implements, including bifacial chipped stone hoes commonly made of chert from the Mill Creek quarries in southern Union county (Cobb 1992). The chert hoes often became heavily polished through use and small chips with polished surfaces (hoe chips) that were struck from the hoes as a result of reworking or sharpening them are commonly found at Mississippian habitation sites. The presence of hoe chips is often interpreted as evidence of agricultural activity. Small artifact scatters containing shell-tempered pottery and hoe chips are frequently characterized as "farmsteads" or "homesteads" (Milner et al. 1984; Muller 1978; Wagner 1986). The carbonized remains of cultivated plants, including corn, squash, sunflowers, various starchy and oily seeds, and more rarely, beans, are found at Mississippian habitation sites (Milner et al. 1984).

Investigations of the Mississippian period in the lower Illinois valley have primarily been restricted to the excavation of mortuary features at the Schild cemetery (Goldstein 1980; Perino 1971) and other sites (Perino 1971). Mississippian utilization of the region appears to be much less intensive than that of the central Illinois River valley to the north and the American Bottom to the south. Noticeably absent are larger town sites with platform mounds. Instead, a series of small settlements analogous to the "fourth line" communities of the Mississippian settlement system of the American Bottom region are distributed along the main channel of the Illinois River Valley and at the mouths of feeder streams (Connor 1986:218-219). Goldstein (1980) and

Connor (1986) have suggested that the lower Illinois River valley functioned as a resource procurement area during the Mississippian period, with the Mississippian inhabitants of the area possibly supplying dried meat, fish, skins, chert, and other materials to larger Mississippian centers in the central Illinois River valley and American Bottom. Based on both survey information and excavation data from the Hill Creek site, a late (A.D. 1150-1350) homestead, Conner (1986) has proposed that during early Mississippian times the lower Illinois valley had ties to the American Bottom to the south while during later times these ties shifted to the central Illinois River valley to the north.

Historic Background

Jersey County was initially contained within St. Clair County of the Northwest Territory. This huge county, which encompassed parts or all of 33 present-day Illinois counties, was established by a proclamation of Governor St. Clair in 1790. Jersey County remained part of St. Clair County until 1812, when it became part of Madison County, Illinois Territory. Greene County, which consisted of modern-day Green and Jersey Counties, was created out of Madison County in 1821. Green County was divided in half in 1839 with the southern half becoming Jersey County (Anonymous 1989).

Euro-American settlement of the lower Illinois River valley preceded the formation of either Green or Jersey County. When Major Stephen Long crossed through the region on his exploratory expedition of western North America he reported that there were five settlements on the lower Illinois River valley, two of which were located approximately 20 miles from the junction of the Illinois with the Mississippi (Buck 1917:89). The 1818 state census revealed that families of squatters were located on Apple and Macoupin Creeks in Greene County and on Otter Creek in Jersey County. Edmund Dana reported that approximately 60 families were living in the area of these three creeks in 1818. He also reported that about 120 families of squatters were living along the Illinois River from Piasa Creek to present-day Macoupin County prior to the first land sales in 1819.

Squatters were individuals and families, primarily of southern origin, who occupied and improved government land to which they "held neither title nor claim" (Hammes 1977:319). As such, there are no legal documents that show the location of early nineteenth-century households in present-day Jersey County. Squatting on public land developed as a widespread practice in early nineteenth century southern Illinois because of a lack of available land for purchase. Immigrants to Illinois during this time found that a combination of French, British, and American grants over an approximate 100 year period had produced an almost indecipherable quagmire of conflicting land claims. By the time the first settlers arrived in present-day Jersey County in the early 1800s, squatting had become recognized by both the government and frontier settlers as a quasi-legal form of land ownership that conveyed to the squatters a strong claim to ownership when the land was offered for sale (Wagner 1991:44-46).

William LaRue reportedly was the first squatter in Rosedale Township, making improvements and building a cabin on section 8 in 1818 while Elisha Fowler reportedly cleared

land in section 21 in 1820 or 1821. A post office was established on Coon Creek, north of the project area, in 1870, with James D. Sinclair serving as the first postmaster. The community of Rosedale, which consisted of a general store, blacksmith shop, and several houses, developed around the post office in section 16 (Clifton et al. 1989:135).

Review of the dates of original purchase for the land comprising Stump Lake Management Area indicates that the majority of this land was purchased from 1831 to 1836 (Table 1). Land first became available for sale in the project area in 1819. The single land purchase from the 1820s in the project area, however, consisted of the purchase of a 40 acre tract (NE¼ NE¼ Section 20, T7NR13W) by Alexander Frazer of Ohio in 1823. That only 40 acres of the low-lying, swampy bottomland was purchased in the decade following the inception of public land sales attests to the low economic value the early settlers placed on this land.

The overwhelming majority (76.2%) of the land in the project area for which records are available was purchased from the federal government between 1831 and 1836. Only 6.3% was purchased in 1847 and 1848, and 16.3% was purchased in 1853 and 1854 (Table 1).

The 1830s land purchases probably represent a combination of actual settlement and land speculation, with most of the purchases suspected to be the latter. Land speculation caused an upswing in land sales throughout the eastern United States during the early 1830s prior to the financial Panic of 1837 (Cole 1968;229-251; Howard 1972:158;259). The adoption by banks of a policy of unlimited credit together with the inflated value of paper money had resulted in a false impression of prosperity. Speculators rushed to buy land, expecting to make large profits:

> People everywhere were diverted from sane business operations by the expectation of making a fortune out of speculative deals. The demand for land and town lots became a near-madness. Normally conservative businessmen, farmers, lawyers, mechanics, and day laborers believed that every plot of ground which they might buy could be sold in a few months or a year at fabulous prices (Krenkel 1958:47).

During this time Illinois was swept by a wave of land speculation coupled with a mania for internal improvements. The amount of public land sold in Illinois increased almost ten fold within two years, from 354,010 in 1834 to 3,199,703 acres in 1836. Following the Panic of 1837 land sales dropped dramatically in Illinois, not recovering until the mid-1850s.

The land sales in 1847 and 1848 may be related in some way to the issuance of military warrants. Between 1847 and 1855 Congress authorized, the issuance of warrants, each good for 160 acres, to soldiers who participated in the Mexican War and Indian Engagements. These warrants were legally assignable and could be bought at county seats (Howard 1972:257). As a result, the government received nothing and land speculators invested less than $1.25 in their land-warrant holdings. This activity was not unusual. Paul Gates, a leading Illinois historian, has found that after 1850, more Illinois land was exchanged for military warrants than was sold for cash (Howard 1972:158).

Table 1. Original Land Purchase Data For Parcels Within The Stump Lake Complex.

Purchaser	Description	Section	Town-ship	Range	Acres Bought	Price Per Acre	Total Price	Date Purchased	County or State Of Purchaser
Frazer, Alexander	SE SE	17	7N	13W	40.00	1.25	50.00	10-10-32	Ohio
Haddix, Enoch	SW SE	17	7N	13W	40.00	1.25	50.00	11-14-35	Greene
Larison, Levi	NW SE	17	7N	13W	40.00	1.25	50.00	01-12-36	Greene
Spalding, Enoch	E2 SW	17	7N	13W	80.00	1.25	100.00	12-24-35	Greene
Spalding, Enoch	W2 SW	17	7N	13W	74.26	1.25	92.82	01-04-36	Greene
Utt, David C.	NE SE	17	7N	13W	40.00	1.25	50.00	12-14-35	Greene
NO RECORDS		19	7N	13W					
Fowler, Elisha	SE NE	20	7N	13W	40.00	1.25	50.00	04-20-35	Greene
Frazer, Alexander	NE NE	20	7N	13W	40.00	1.25	50.00	00-10-23	Greene
Kilburn, John	SW SW	20	7N	13W	21.10	1.25	26.39	01-21-40	Greene
Outos, Henry	SW SE	20	7N	13W	40.00	1.25	50.00	10-30-48	Greene
Parker, Francis	W2 NW PRE	20	7N	13W	80.00	1.25	100.00	12-26-35	Greene
Thompson, David	W2 NW	20	7N	13W	77.60	1.25	97.00	01-07-36	Greene
Thompson, David	W2 NE	20	7N	13W	80.00	1.25	100.00	12-17-35	Greene
Utt, Henry	NW SW	20	7N	13W	31.32	1.25	39.15	03-26-36	Greene
Williams, William	E2 SE	20	7N	13W	80.00	1.25	100.00	12-21-35	Greene
Allen, Issac	NE NW	21	7N	13W	80.00	1.25	100.00	12-21-35	Greene
Oase, George	NW NW	21	7N	13W	40.00	1.25	50.00	04-28-34	Greene
Fowler, Elisha	NW SW PRE	21	7N	13W	40.00	1.25	50.00	09-15-32	Greene
Hamilton, Nathaniel	E2 NW	21	7N	13W	80.00	1.25	50.00	09-15-32	Greene
Utt, Adam	SW NW	21	7N	13W	40.00	1.25	50.00	12-26-35	Greene
Wedding, Thomas	SW SW	21	7N	13W	40.00	1.25	50.00	04-20-35	Greene
Gowen, Nathan	SE SW	28	7N	13W	40.00	1.25	50.00	02-04-36	
Smith, Robert	NE SW	28	7N	13W	40.00	1.25	50.00	08-18-35	Greene
Smith, Robert	W2 SW	28	7N	13W	80.00	1.25	100.00	08-18-35	Greene
Wedding, Thomas	NE NW	28	7N	13W	40.00	1.25	50.00	07-16-39	
Wedding, Thomas	W2 NW	28	7N	13W	80.00	1.25	100.00	08-18-35	Greene
Eliet, Charles	W2 SW	29	7N	13W	43.09	1.25	53.87	02-07-37	Virginia
Eliet, Charles	W2 NW	29	7N	13W	43.09	1.25	53.87	02-07-37	Virginia
Ledbetter, Stephen	SW SE	29	7N	13W	40.00	1.25	50.00	10-10-48	
Lee, William	SE SE	29	7N	13W	40.00	1.25	50.00	10-21-48	
Smith, Robert	N2 SE	29	7N	13W	40.00	1.25	50.00	11-22-47	
Wedding, Thomas	E2 NE	29	7N	13W	80.00	1.25	100.00	04-20-35	Greene
Hamilton, William	W2 SW FR	32	7N	13W	31.93	1.25	39.31	09-12-36	Greene
Kelbern, John	NW NW	32	7N	13W	37.26	1.25	46.57	02-03-41	
Smith, William	NE NE	32	7N	13W	40.00	1.25	50.00	11-22-47	
Waltz, Daniel	SW SE	32	7N	13W	40.00	1.25	50.00	06-20-48	
Burris, Seth	NE SW	33	7N	13W	40.00	0.13	5.20	09-22-54	Madison
Cox, Aaron	E2 NW PRE	33	7N	13W	80.00	1.25	100.00	09-15-32	Greene
Smith, William	NW NW	33	7N	13W	40.00	1.25	50.00	11-22-47	
Stone, Caleb	SW	33	7N	13W	160.00	1.25	200.00	04-27-36	Madison
Benninger, John	NE SE	4	6N	13W	40.00	1.25	50.00	12-31-35	Montgomerey
Caldwell, John	NW NE	4	6N	13W	40.00	1.25	50.00	12-03-35	Greene
Carrico, John	SW NE	4	6N	13W	40.00	1.25	50.00	02-28-33	Greene
Collins, David	W2 NW	4	6N	13W	80.00	0.13	10.40	11-15-54	Jersey

Table 1. Original Land Purchase Data For Parcels Within The Stump Lake Complex. (Continued)

Purchaser	Description	Section	Town-Ship	Range	Acres Bought	Price Per Acre	Total Price	Date Purchased	County or State Of Purchaser
Creswell, Sam	SE NE	4	6N	13W	40.00	1.25	50.00	01-31-33	Greene
Creswell, William	NE SW	4	6N	13W	40.00	1.25	50.00	12-15-35	Greene
Creswell, Sam	W2 SE	4	6N	13W	80.00	1.25	100.00	05-17-31	Greene
Deuring, William	SE SW	4	6N	13W	40.00	1.25	50.00	01-28-36	Greene
Spalding, Enoch	E2 NW	4	6N	13W	80.00	1.25	100.00	12-24-35	Greene
Tharp, Jacob	N2 SW	4	6N	13W	80.00	0.13	10.40	09-21-54	Jersey
Williams, William	SE SE	4	6N	13W	40.00	---	WARRENT	02-23-53	
Hamilton, William	SW FR	5	6N	13W	15.49	1.25	19.37	09-15-36	Greene
Mason, Martha	W2 NE	5	6N	13W	80.00	1.25	100.00	10-05-36	Madison
Mason, Martha	E2 SE	5	6N	13W	55.14	1.25	68.93	10-05-36	Madison
Mason, Paris	W2 SE FR	5	6N	13W	50.23	1.25	62.79	01-28-36	Greene
Mason, Paris	NW FR	5	6N	13W	54.62	1.25	68.28	01-28-36	Greene
Darcy, Edward A.	FR SEC	8	6N	13W	5.05	1.25	6.31	02-18-36	
Cresswell, Thomas	SE FR FS	9	6N	13W	158.00	1.25	40.73	05-13-29	Greene
Hamilton, William	SW FR	9	6N	13W	15.49	1.25	19.37	09-15-36	Greene
Heaton, George	E2 NE	9	6N	13W	80.00	1.25	100.00	05-09-37	Madison
Hurd, J.M.	W2 NE	9	6N	13W	80.00	1.25	100.00	09-12-36	Greene
Mason, Martha Maria	W2 N FR PT SC	9	6N	13W	35.80	1.25	44.75	10-05-36	Madison
Terrell, Timothy	S2 NW	9	6N	13W	52.20	1.25	65.25	04-14-37	Madison
Terrell, Timothy	NE NW	9	6N	13W	40.00	1.25	50.00	04-14-37	Madison

The remainder of the land in the project area was purchased for $ .13 per acre in 1853 and 1854 (Table 1). These sales are undoubtedly associated with the passage by Congress of the federal Graduation Act of 1852 (Howard 1972:259). This act reduced the price of land which had been for sale for ten years or more. The price of the land was based on how long the land had been available, with the minimum price set at $ .12½ an acre. That the land within the project area was sold for only 1/2 cent more than the minimum asking price attests to its low economic value in the eyes of the nineteenth-century settlers of the region.

In sum, it would appear that the majority of the land within the study area was purchased during a period of intense national land speculation prior to the Panic of 1837. A very small amount of the study area that was purchased in the 1820s may reflect actual settlement. That the majority of the land within the project area was purchased as land speculation rather than by settlers suggests that it was initially undesirable during the early and mid-nineteenth century. The swampy low-lying terrain may have acted to discourage settlers, as little agricultural use could be found for such lands.

Previous Archaeological Investigations

Archaeological investigations within the project area have been restricted to pedestrian survey, shovel testing, and the extraction of geomorphological samples (Clifton et al. 1989;

Farnsworth 1976; Schroeder 1992). The western river edge of the project area was surveyed by Farnsworth (1976) as part of a shoreline survey of the Illinois River with negative results. Survey along the eastern edge of the property in 1977 relocated a site (11-J-27) originally reported by McGregor in 1953; lithic material, as well as one Late Woodland sherd, was collected from the site (Farnsworth and Neusius 1978). Three prehistoric sites (11-Jy-228, -229, -232), as well as one site that produced both prehistoric and historic material (11-J-230), were located by a 1987 survey of proposed Illinois Department of Conservation (IDOC) construction areas (Clifton et al. 1989:140-143). A 1990 survey of IDOC construction areas located an additional two prehistoric sites (11-J-235, -236), three sites with both prehistoric and historic components (11-J-237, -238, -239), and one prehistoric isolated find. Prehistoric components dated to the Archaic, Late Archaic, and Middle Woodland periods. Two sites (11-J-238 and -239) were recommended as potentially eligible for the National Register of Historic Places; avoidance was recommended (Schroeder 1992:172).

In sum, ten archaeological sites and one isolated find have been documented within the bounds of the Stump Lake Management Area (Figure 3; Table 2). In addition, archival research conducted by Clifton et. al. (1989) and Schroeder (1992) indicates that 12 late nineteenth- to early twentieth-century historic sites are potentially located within the management area (Figure 4; Table 3). All are identified as residences, although those located on the sloughs or river edge are identified as possible seasonal cottages.

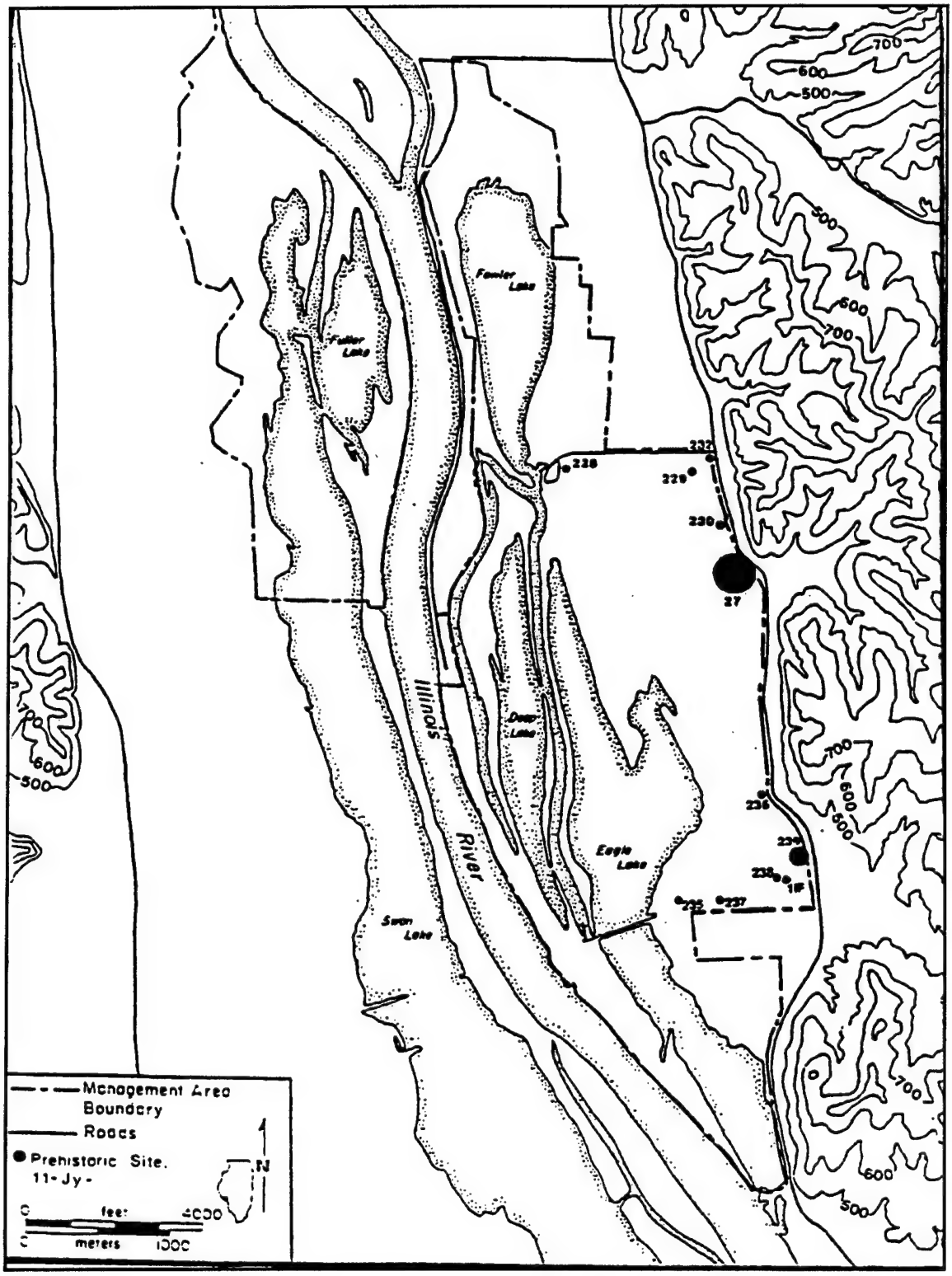

Figure 3. Location of previously-recorded prehistoric sites within the Stump Lake Waterfowl Management Area (from Schoeder 1992:154).

Table 2

*Previously Recorded Archaeological Sites,
Stump Lake Management Area

IAS #	T	R	S	Quarters	Component	NRHP Status
27	7N	13W	33	N½ NE NW N½ SE NE NW	Prehistoric	Not Evaluated
228	7N	13W	29	E½ SW NE NW SE	Prehistoric	Not Evaluated
229	7N	13W	28	SE NE NW SW	Prehistoric	Not Evaluated
230	7N	13W	28	NW SW NE SE SW; SE NE NW SE S	Prehistoric/ Historic	Not Evaluated
232	7N	13W	28	NE NW NE SW	Prehistoric	Not Evaluated
235	6N	13W	4	NW SW SE SW NW	Prehistoric	Not Evaluated
236	7N	13W	33	SE SE SE SE SW; SW SW SW SW SE	Prehistoric Prehistoric	Not Evaluated Not Evaluated
237	6N	13W	4	NE SW SW SE N	Prehistoric; Historic	Not Evaluated
238	6N	13W	4	S½ NW SW NE	Archaic; Historic	Not Evaluated
239	6N	13W	4	W½ SW NW NE; SE SE NW NE; SW NW NW NE	Early Archaic; Late Archaic; Middle Woodland; Historic	Not Evaluated Not Evaluated
1IF	6N	13W	4	SE SE NW SW NE	Prehistoric	Not Evaluated

* All information from Farnsworth and Neusius (1978); Clifton et al. (1989); and Schroeder (1992).

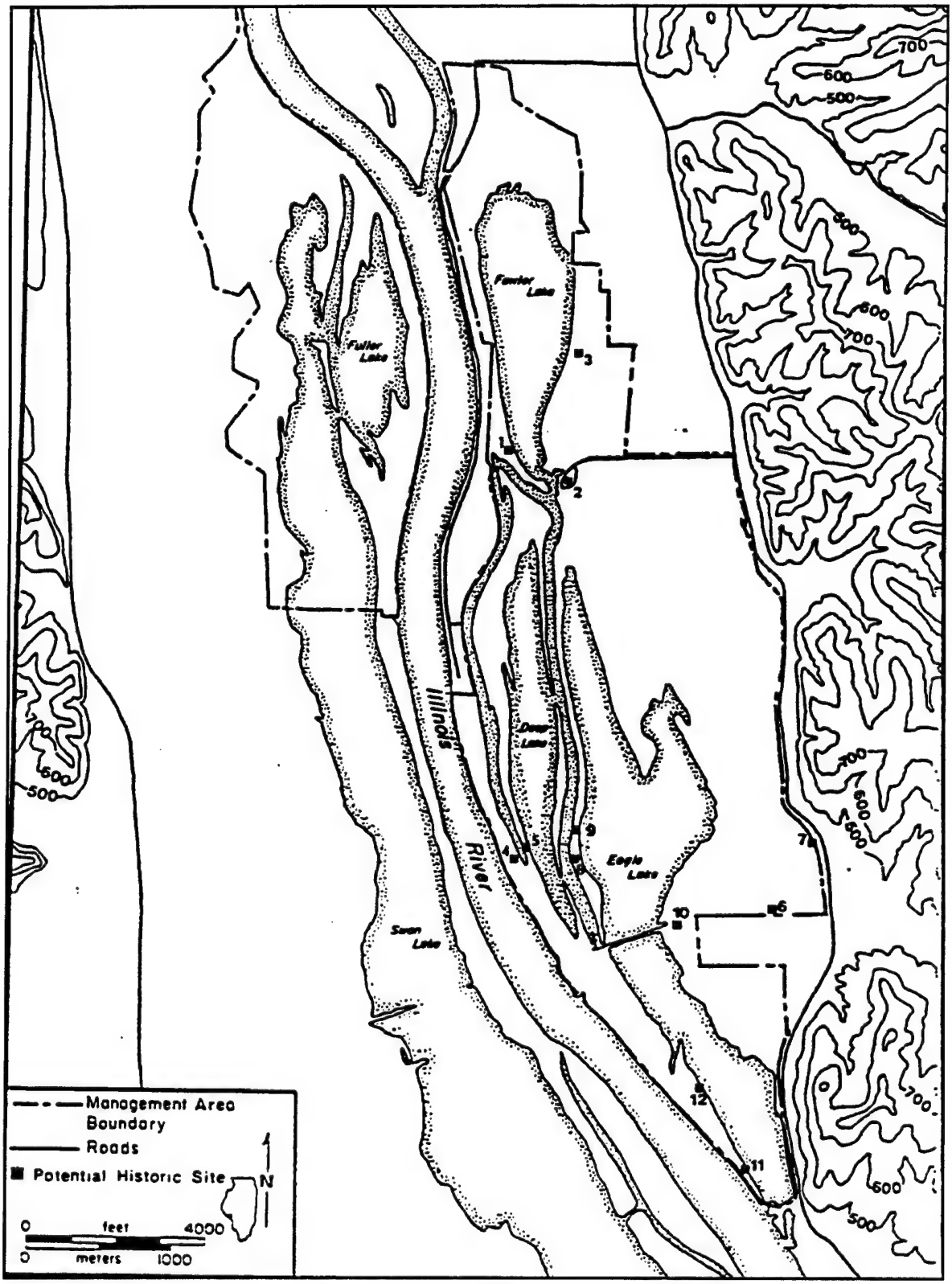

Figure 4. Location of potential historic sites within the Stump Lake Waterfowl Management Area (from Schoeder 1992:155).

Table 3

Historic Site Information,
Stump Lake Management Area

Site	Map/Atlas Date	T	R	S	Quarters	Site Type
1	1930	7N	13W	29	SE SW SW NW	Structure
2	1916 1930	7N	13W	29	S½ NW NW SE	Structure
3	1930	7N	13W	29	NW NE NW NE	Structure
4	1872	6N	13W	5	SE SW NE NW	Structure
5	1916	6N	13W	5	NW SE NE NW	Club House
6	1872 1893 1916	6N	13W	4	SW SW SW NE	Structure
7	1893 1916 1931	6N	13W	4	E½ SE NW NE	Structure
8	1931	6N	13W	5	SE SW NW SE	Structure
9	1931	6N	13W	5	SE NW NE	Structure
10	1931	6N	13W	4	NW NW SW	Structure
11	1931	6N	13W	9	NW SE NE SW	Structure
12	1931	6N	13W	9	N½ NE SW NW	Structure

* All information from Schroeder (1992)

CHAPTER V. ARCHAEOLOGICAL FIELD INVESTIGATIONS

Introduction

The construction corridors of an exterior levee and seven interior levees, as well as the locations of nine water level control structures, two pump stations, and a boat ramp and access road, were inspected during the present survey (Figure 2). A detailed description of the results of these investigations are presented below.

The coordinates used in the following descriptions to locate specific points within the project area correspond to the grid found on the accompanying Corps of Engineers project area plans (Figures 5-10), and refer to distances measured in feet from the south end of the project area to the north. These plans, dated June 17, 1993, were designed by J. W. Poullain, and drawn by V. B. Behrmann.

Interior Levees #1-7

The construction corridors of the seven interior levees were shovel tested prior to the initiation of the geomorphological investigation. Where possible, shovel tests were excavated at 20 m intervals along two transects spaced 20 m apart within these corridors. At the time of survey, however, portions of the isthmuses on which these levees are to be constructed had been narrowed by rising lake levels to such an extent that they could accomodate no more than a single transect, and segments of several of the levee construction corridors had been inundated. The water table was encountered within 10-30 cm of the ground surface in nearly all the shovel tests, thus limiting the depth to which the shovel tests could be excavated and, as a result, precluding determination of the depth of historically-deposited sediments. It was subsequently determined, through soil coring, that the recent deposits covering this portion of the project area extend to depths (> 5.9 ft) well below the maximum depth of construction impact (2 ft).

Interior Levee #1

Project Location: N 848,300/E 385,600 E - N 850,200/E 385,600
Dimensions: 2,200 ft long; 90-140 ft wide
Elevation: 420-422.2 NGVD
Survey Conditions: Bottomland forest; ground surface visibility obscured by leaf litter
Survey Methods: Screened (1/4") shovel tests at 20 m intervals along two transects spaced 20 m apart

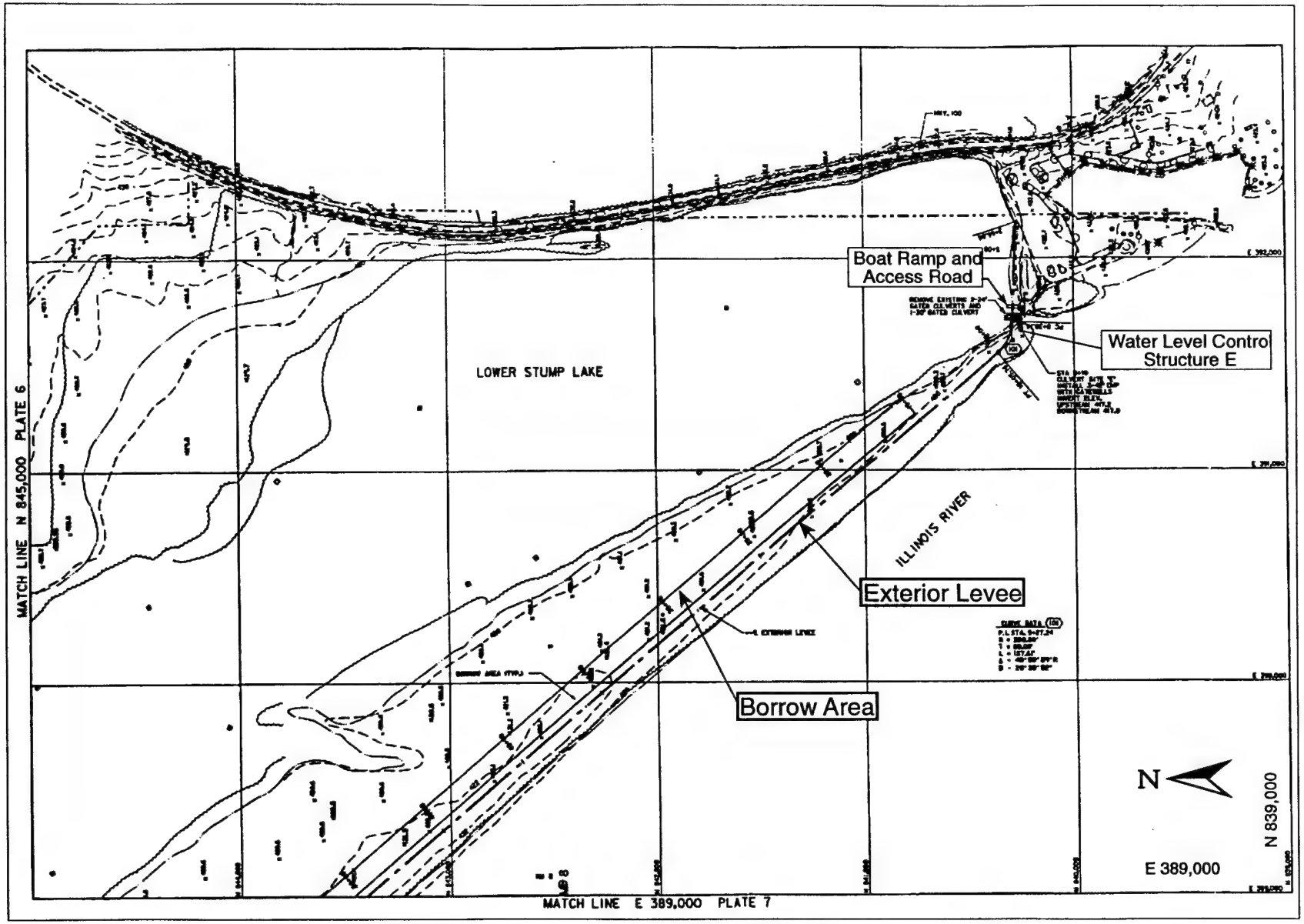

Figure 5. Stump Lake Complex HREP/EMP project area plan, N839,000-N845,000.

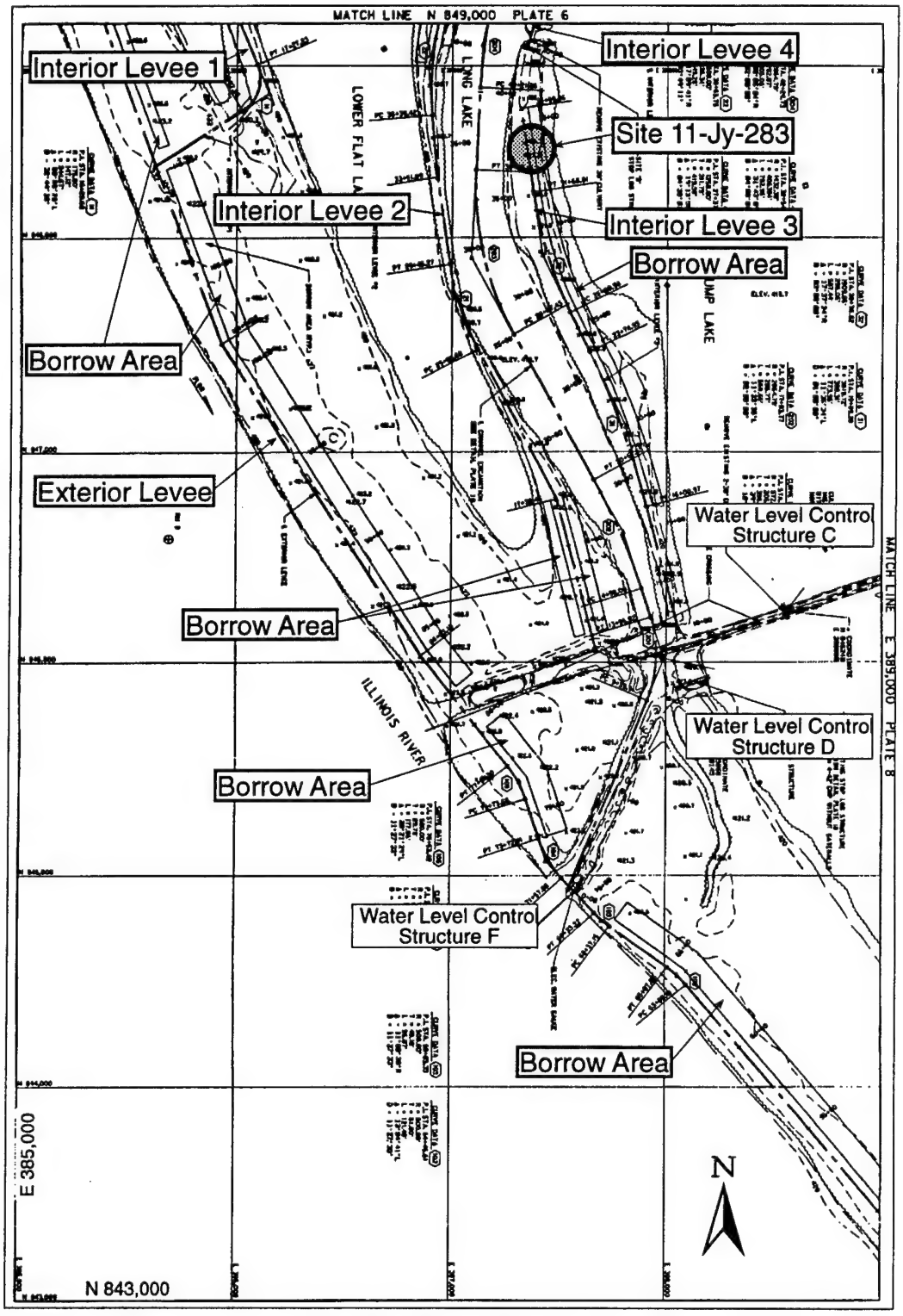

Figure 6. Stump Lake Complex HREP/EMP Project Area Plan, N843,000-N849,000.

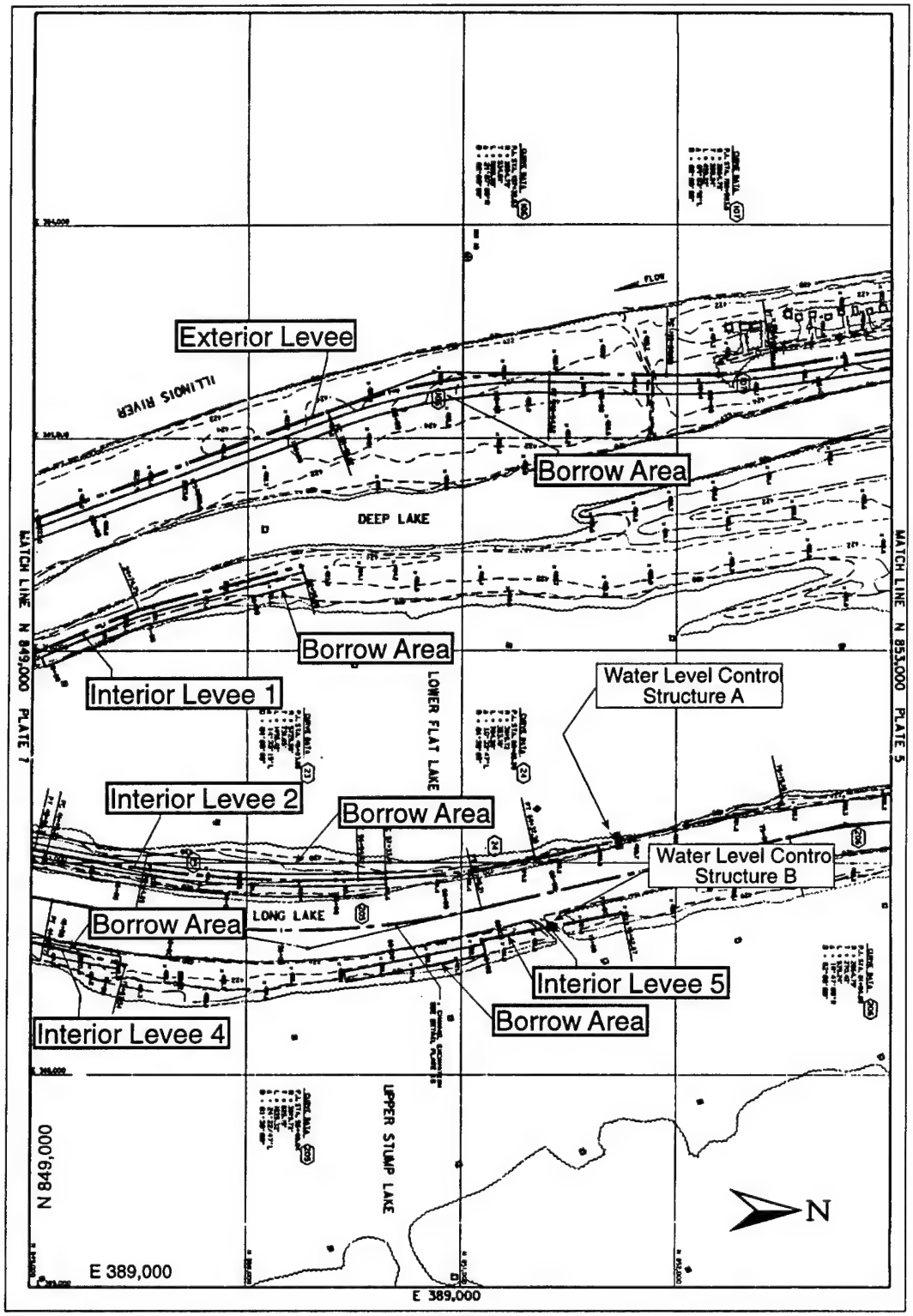

Figure 7. Stump Lake Complex HREP/EMP project area plan, N849,000-N853,000.

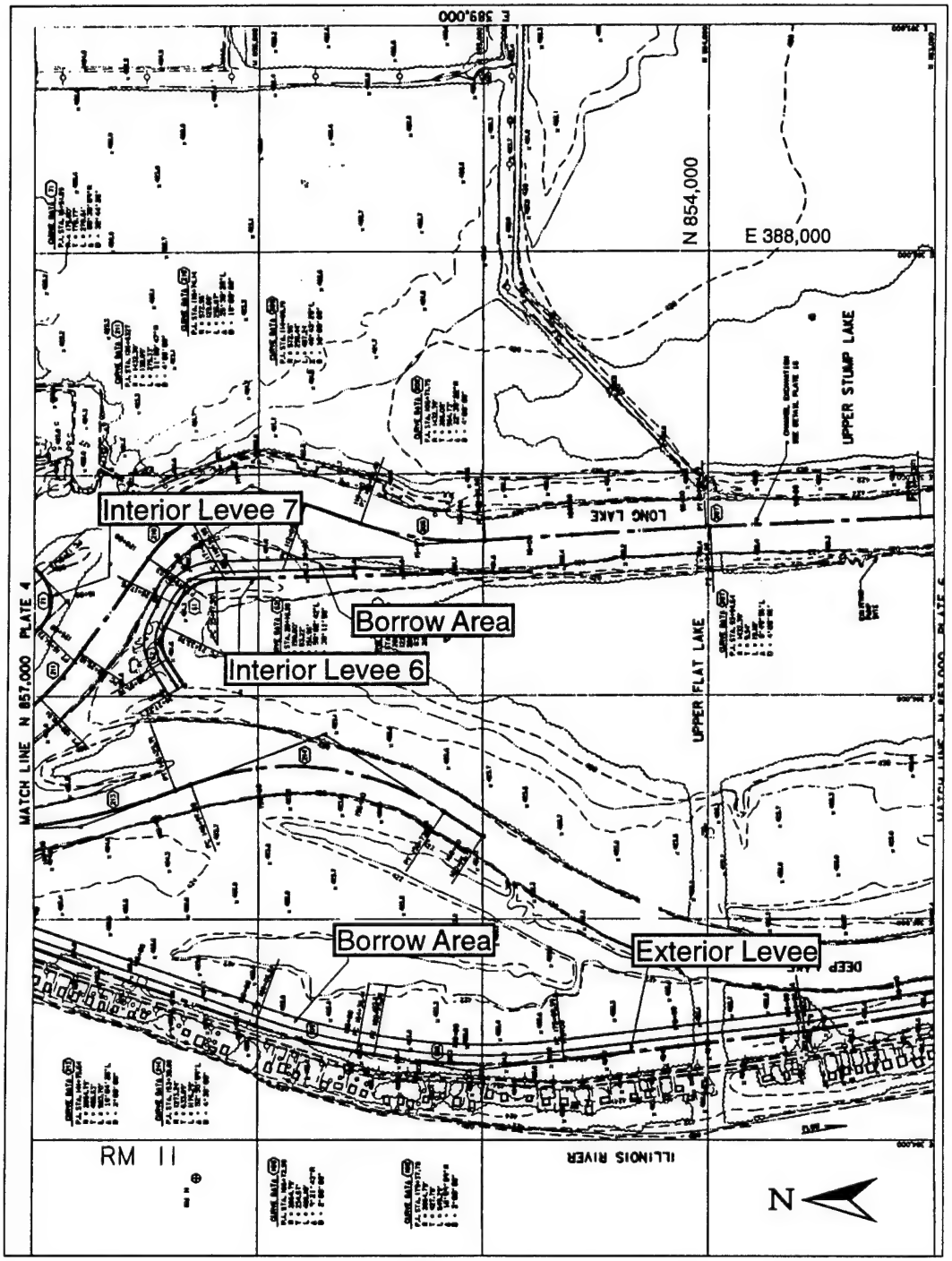

Figure 8. Stump Lake Complex HREP/EMP project area plan, N853,000-857,000.

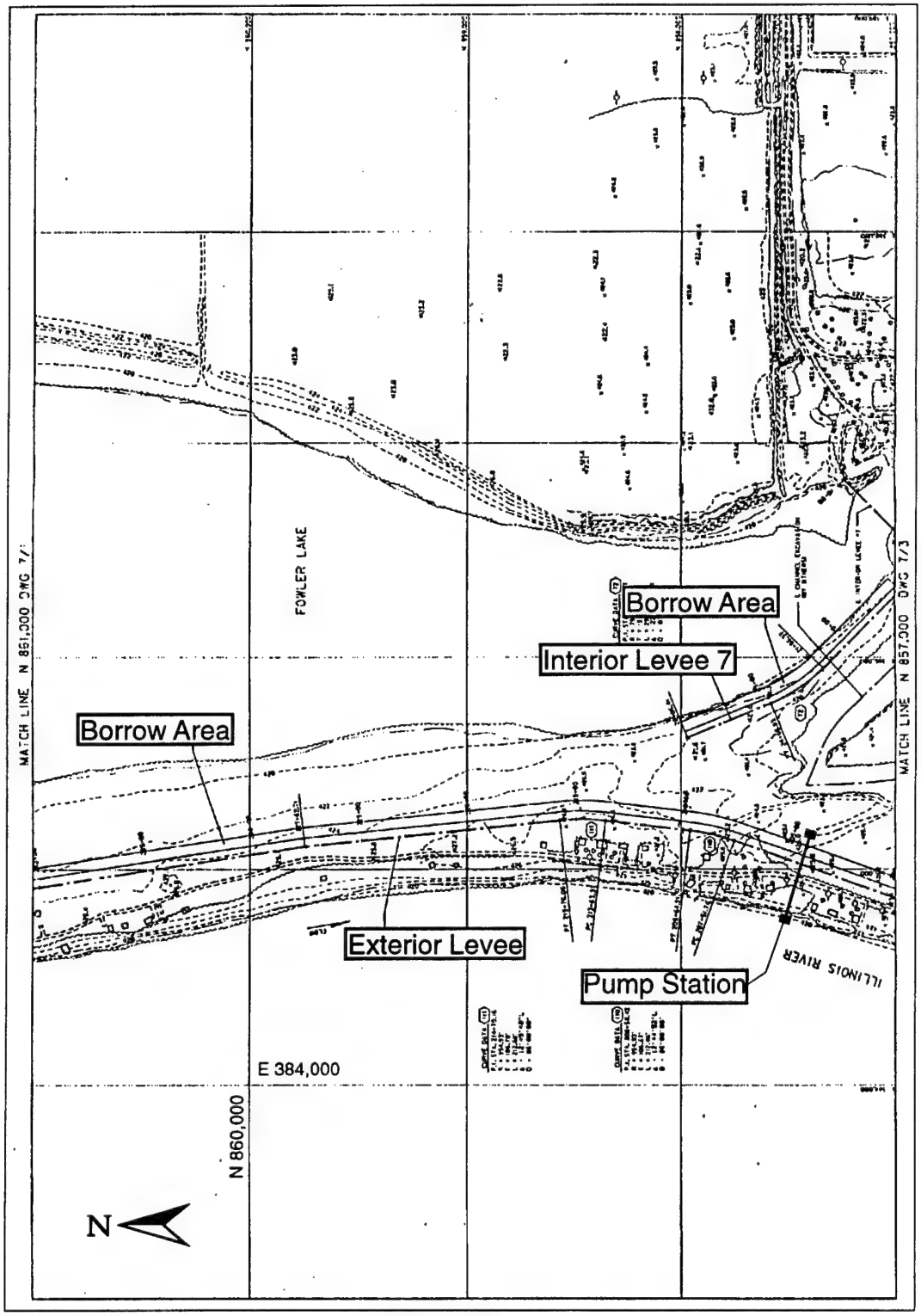

Figure 9. Stump Lake Complex HREP/EMP project area plan, N857,000-N861,000.

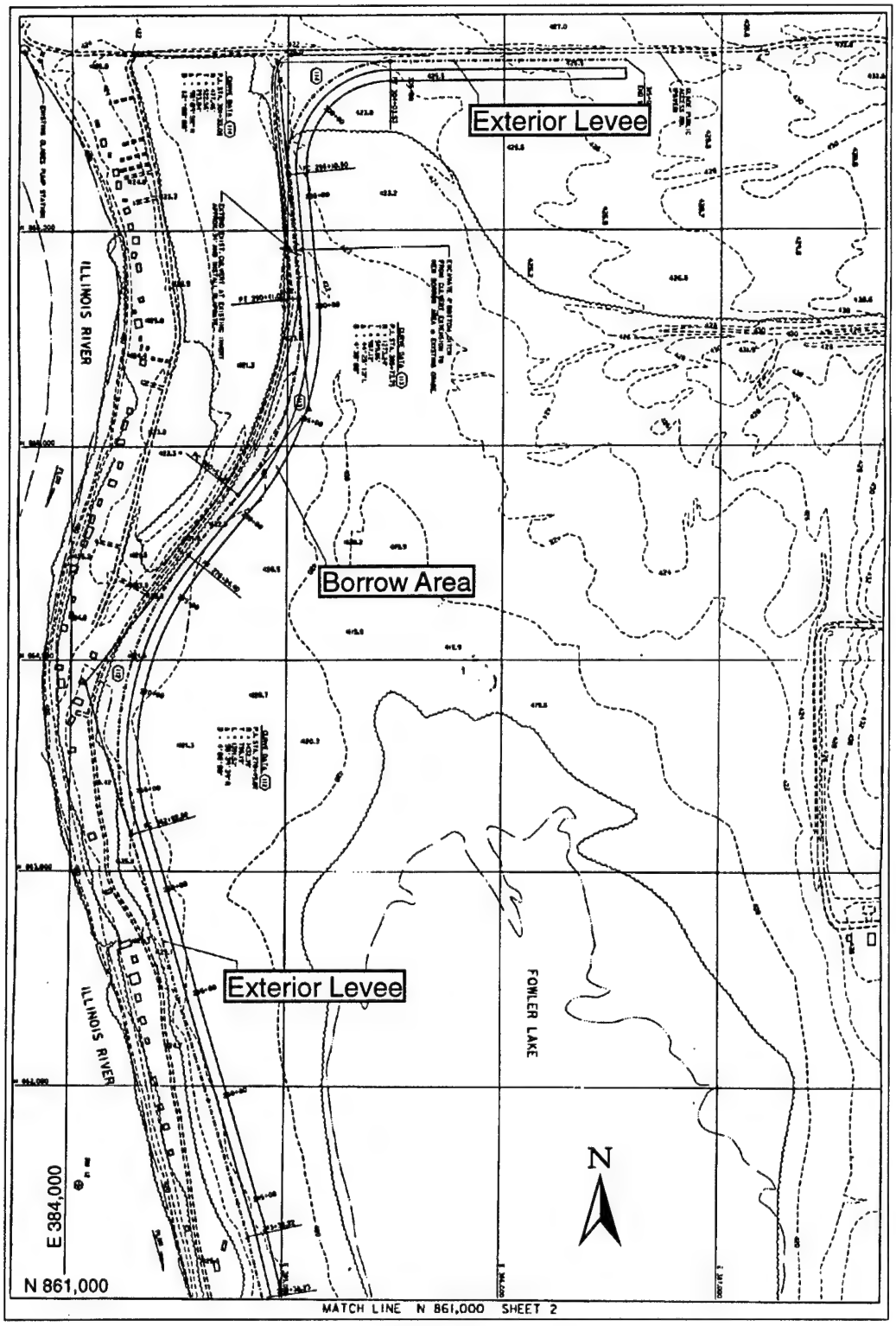

Figure 10. Stump Lake Complex HREP/EMP project area plan, N861,000-867,000.

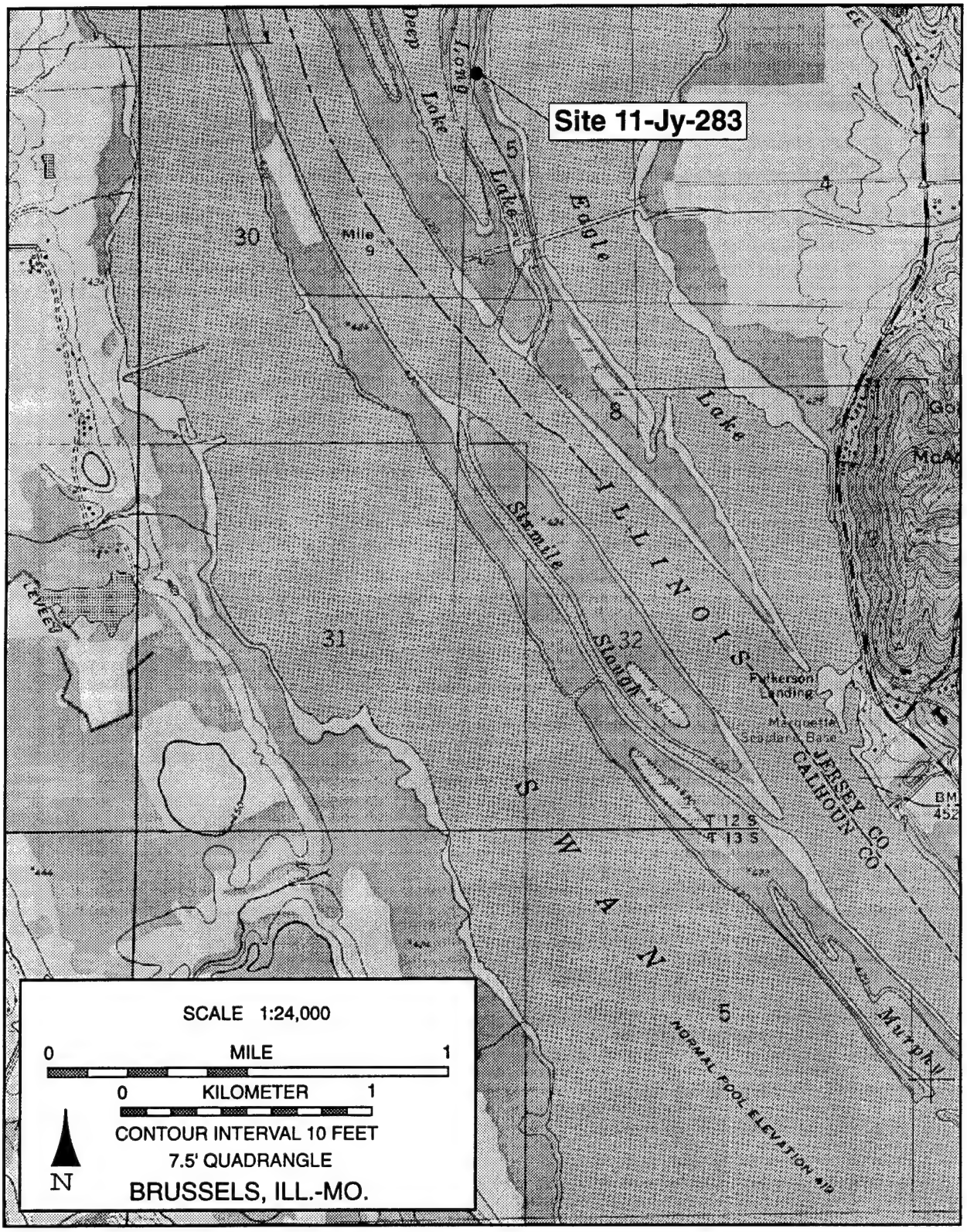

Figure 11. Topographic location of site 11-Jy-283.

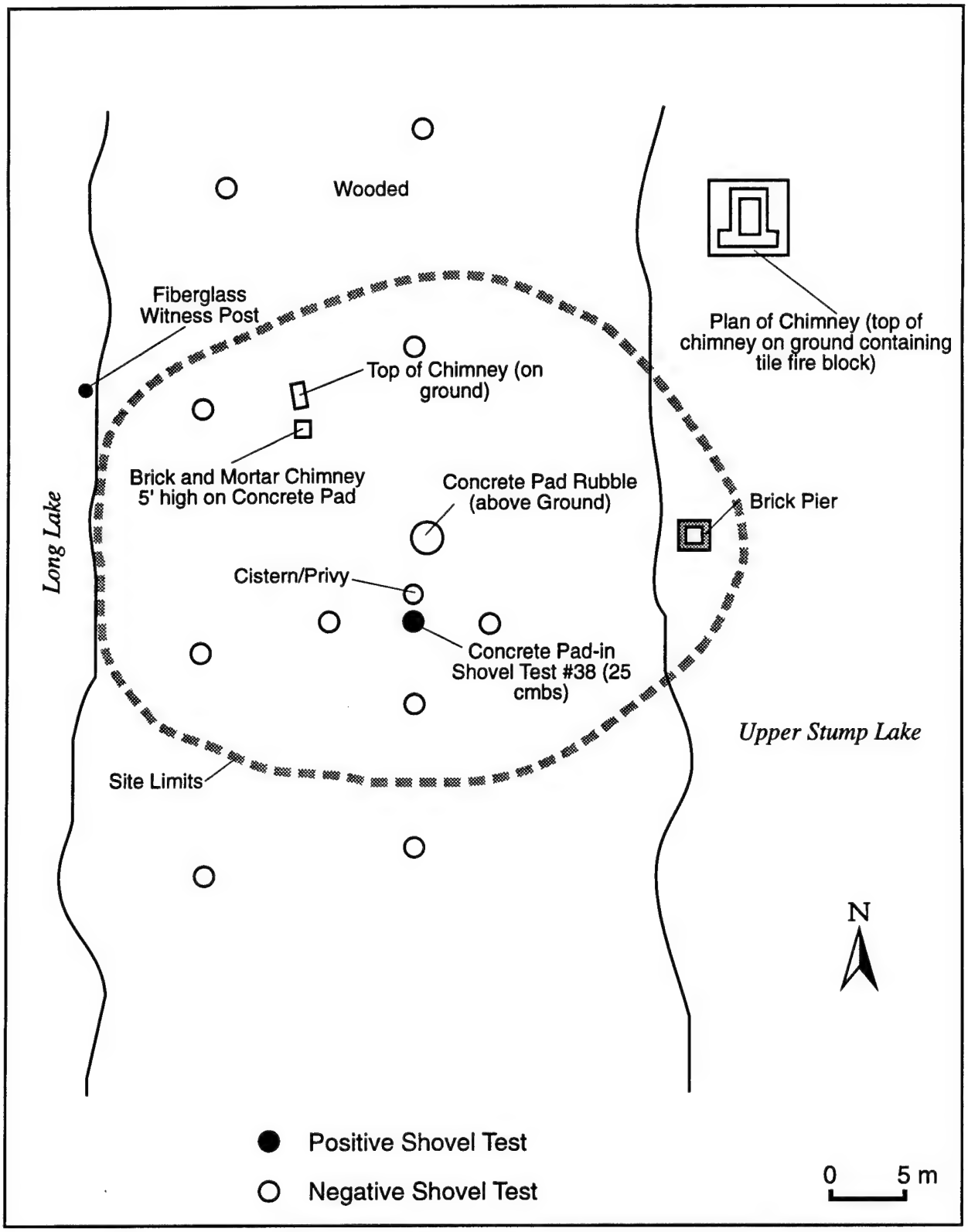

Figure 12. Site plan, 11-Jy-283.

The cistern/privy is a circular ceramic tile approximately 1 meter in diameter. This feature is located approximately 1 m north of the concrete pad identified in a shovel test (Figure 12). Both the cistern/privy and the concrete pad located south of it were covered by approximately 25 cm of flood-deposited silt.

No standing structures are present at site 11-Jy-283, and no artifacts were recovered in shovel tests excavated in the site area.

Interpretation. Site 11-Jy-283 appears to be a residence/seasonal cottage dating to the early to mid-twentieth century. The location of the site corresponds to the location identified by Schroeder (1992:159) as potential historic site 8 (Figure 4). Potential historic site 8 was identified during an examination of the 1931 USGS, Brussels, Mo.-Ill. 15' quadrangle map. This USGS quadrangle map was prepared using survey data compiled in 1927 (Schroeder 1992:160).

It appears that the structures at site 11-Jy-283 were razed and the construction materials removed from the site. Consequently, the integrity of the site has probably been severely compromised.

Interior Levee #4

Project Location: N 848,900/E 387,350 - N 849,400/E 387,500
Dimensions: 600 ft long; 90 ft wide
Elevation: 420-422.5 NGVD
Survey Conditions: Bottomland forest; ground surface visibility completely obscured by leaf litter
Survey Methods: Screened (1/4") shovel tests at 20 m intervals along two transects spaced 20 m apart

Description. The construction corridor of Interior Levee #4 is located on the isthmus between Upper Stump Lake and the southern end of Long Lake (Figures 6 and 7). The water table was encountered at depths of 15-30 cm BS in shovel tests excavated in this construction corridor. A single soil horizon consisting of dark brown silt loam was observed in these tests. Cultural material was not recovered in any of the shovel tests excavated in the construction corridor of this levee.

Interior Levee #5

Project Location: N 851,100/E 387,350 - N 851,750/E 387,250
Dimensions: 700 ft long; 50-90 ft wide
Elevation: 420-422.2 NGVD
Survey Conditions: Bottomland forest; ground surface visibility completely obscured by leaf litter
Survey Methods: Screened (1/4") shovel tests at 20 m intervals along two transects spaced 20 m apart

Description. The construction corridor of Interior Levee #5 is located on the isthmus between Upper Stump Lake and Long Lake (Figure 7). Proposed Water Level Control Structure B, a Stop Log Structure, is located in a narrow channel connecting the two lakes at a point mid-way between the northern and southern ends of the construction corridor (Figure 7). The water table was encountered at depths of 20-30 cm BS in shovel tests excavated in this construction corridor. A single soil horizon consisting of dark brown silt loam was observed in these tests. Cultural material was not recovered in any of the shovel tests excavated in the construction corridor of this levee.

Interior Levee #6

Project Location: N 854,800/E 386,550 - N 856,300/E 386,050
Dimensions: 2,400 ft long; 90-140 ft wide
Elevation: 420-422.2 NGVD
Survey Conditions: Bottomland forest; ground surface visibility completely obscured by leaf litter
Survey Methods: Screened (1/4") shovel tests at 20 m intervals along two transects spaced 20 m apart

Description. The construction corridor of Interior Levee #6 is located on an isthmus between Upper Flat Lake and Long Lake, and, an isthmus between the northern ends of Long Lake and Deep Lake (Figure 8). The water table was encountered at depths of 10-15 cm BS in shovel tests excavated near the southern end of the construction corridor, and at depths of 20-30 cm BS in tests dug in the central and northern portions of the corridor. A single soil horizon consisting of dark brown silt loam was observed in these tests. Cultural material was not recovered in any of the shovel tests excavated in the construction corridor of this levee.

Interior Levee #7

Project Location: N 857,200/E 386,800 - N 857,950/E 385,600
Dimensions: 1,900 ft long; 90-140 ft wide
Elevation: 420-422 NGVD
Survey Conditions: Bottomland forest; ground surface visibility completely obscured by leaf litter; southern half of corridor under water at time of survey
Survey Methods: Screened (1/4") shovel tests at 20 m intervals along two transects spaced 20 m apart

Description. The construction corridor of Interior Levee #7 is located on an isthmus between Fowler Lake and the northern end of Long Lake (Figures 8 and 9). The southern half of the corridor, from approximately N 857,400/E 385,875 to N 857,000/E 386,550, was under water at the time of survey (Figures 8 and 9). The water table was encountered at depths of 10-15 cm BS in shovel tests excavated in the northern half of the construction corridor. A single soil horizon consisting of dark brown silt loam was observed in these tests. Cultural material was not recovered in any of the shovel tests excavated in the construction corridor of this levee.

Exterior Levee

The construction corridor of the exterior levee was surveyed following the completion of the geomorphological investigation. This corridor was surveyed through systematic walkover, the information obtained from soil coring having indicated the depth of the historical alluvium deposits in this part of the project area is too deep for shovel tests to penetrate. Results of geomorphological testing indicated that buried soils in the northern two-thirds of the exterior levee may contain significant cultural resources. Therefore, the Corps and SHPO have modified the project to reduce the borrow depths from the original 4 ft to 2.5 ft in that portion of the exterior levee.

Project Location: N840,300/E 391,700 - N 866,800/E 386,550
Dimensions: 5.7 miles long; 90-240 ft wide
Maximum Depth of Construction Impact: 1.5-4 ft
Elevation: 420-426.5 NGVD
Survey Conditions: Bottomland forest covers most of corridor; ground surface visibility completely obscured by leaf litter in forested portion of corridor; cultivated field at extreme northern end of corridor; approximately 90% ground surface visibility in cultivated field
Survey Methods: Systematic walkover

Description. The construction corridor of the Exterior Levee is located along the southern, western, and northern margins of the Stump Lake Complex (Figures 5-10). The south end of the corridor abuts the embankment of State Route 100 at the base of the valley-margin bluffs, runs in a southwestly direction along the southern shore of Lower Stump Lake, and turns north a short distance west of the proposed locations of the boat ramp and Water Level Control Structure E (Figure 5). The portion of the corridor bordering the western margin of the Complex parallels the Illinois River for a distance of approximately 4.8 miles before leaving the river and angling northeastward (Figures 5-10). The northern portion of the corridor is located in a cultivated field bounded by an east-west oriented gravel road marking the northern extent of the Stump Lake Complex (Figure 10).

Elevation within the construction corridor ranges from 420 to 426.5 NGVD, and generally increases from south to north. The .5-mile-long section of the construction corridor north of the boat ramp (N 840,300 - N842,200), including the proposed location of Water Level Control Structure E, encompasses a portion of low-lying floodplain (420 NGVD) that was under 1-2 feet of water at the time of survey (Figure 5). North of the inundated section of the corridor, between N 842,200 and N850,200, the elevation of the corridor rises to 422 NGVD (Figures 5-7). Between N 850,200 and N 864,000, the corridor traverses the crest and eastern flank of a natural levee that ranges from 424 to 426 NGVD in elevation (Figures 7-10). A road giving access to the numerous cottages lining the bank of the Illinois River runs along the crest of the natural levee (Figures 7-10). The construction corridor encompasses a swale, low-lying floodplain at the north end of Fowler Lake, and the distal end of a tributary fan between N

860,400 and the northern terminus of the corridor; this portion of the project area ranges from 422 to 426 NGVD in elevation (Figures 9 and 10).

Water Level Control Structure F is located at the mouth of a water-filled channel connecting Long Lake and the Illinois River, approximately .75 mile north of the inundated section of the construction corridor (N 845,000/E 387,500)(Figure 6). Some of the highest ground within the project area (425 NGVD) occurs at the point where the corridor crosses the proposed location of the Illinois River-Long Lake pump stations (N 859,450/E 385,000)(Figure 9).

No cultural resources were recorded during systematic walkover survey of the construction corridor of the exterior levee.

Water Level Control Structures

Nine water level control structures, including six sluice gated CMP structures, two stop log drainage structures, and one four-chambered fish passage structure, are to be built in connection with the Stump Lake HREP/EMP. The maximum depth of construction impact is 5 feet for the fish passage structure, and 8 feet for each of the other structures. Each of the six proposed locations of these structures (Sites A-F) is either under an existing levee/dike, in an extant channel, or was under water at the time of survey. Moreover, each of the proposed locations of the water level control structures is located in a portion of the project area containing recent alluvium deposits that extend to depths (> 5.9 ft) well below the top of the permanent water table. Consequently, none of the water level control structure locations could be investigated during the present survey, and future investigation using backhoe excavations does not appear feasible.

Water Level Control Structure A

Project Location: N 851,800/E 386,900
Dimensions: 60 ft long; 5-25 ft wide
Maximum Depth of Construction Impact: 8 ft
Elevation: 420.7 NGVD
Survey Conditions: Bottomland forest; construction location under water at time of survey
Survey Methods: Not surveyed

Description. Water Level Control Structure A consists of a 42 inch CMP culvert with sluice gates and gatewells. This structure is to be constructed near the northern end of Interior Levee #2, immediately south of a channel connecting Long Lake and Lower Flat Lake (Figure 7). The proposed location of Water Level Control Structure A was under at the time of survey, and, consequently, could not be examined.

Water Level Control Structure B

Project Location: N 851,400/E 387,300
Dimensions: 90 ft long; 30 ft wide
Maximum Depth of Construction Impact: 8 ft
Elevation: < 420 NGVD
Survey Conditions: Water-filled channel; construction location under water at time of survey
Survey Methods: Not surveyed

Description. Water Level Control Structure B consists of an 8-ft-wide concrete stop log drainage structure. This structure is to be constructed in a narrow channel connecting Long Lake and Upper Stump Lake at a point mid-way between the northern and southern ends of the Interior Levee #5 construction corridor (Figure 7). The proposed location of Water Level Control Structure B was under water at the time of survey, and, consequently, could not be examined.

Water Level Control Structure C

Project Location: N 846,240/E 388,555
Dimensions: 60 ft long; 5-25 ft wide
Maximum Depth of Construction Impact: 8 ft
Elevation: 421 NGVD
Survey Conditions: Located in concrete AT&T cable crossing dike
Survey Methods: Visually examined

Description. Water Level Control Structure C consists of two 42 inch CMP culverts with sluice gates and gatewells. This structure is to replace two existing culverts in the concrete dike separating Upper and Lower Stump Lakes (Figure 6). The proposed location of Water Level Control Structure C was visually examined, but no cultural properties were identified.

Water Level Control Structure D

Project Location: N 845,900/E 388,100
Dimensions: 90 ft long; 30 ft wide
Maximum Depth of Construction Impact: 8 ft
Elevation: 420 NGVD
Survey Conditions: Small channel between Lower Stump Lake and larger channel draining to the Illinois River; bottomland forest covers both banks of the channel; ground surface visibility completely obscured by leaf litter on both banks of small channel
Survey Methods: Channel not surveyed; systematic shovel testing on a 20 m grid of channel banks

Description. Water Level Control Structure D consists of an 8-ft-wide concrete stop log drainage structure. This structure is to be constructed in a narrow channel connecting Lower Stump Lake with a larger channel that drains to the Illinois River (Figure 6). The proposed location of Water Level Control Structure D was filled with water at the time of survey, and, consequently, could not be examined. However, both banks of the channel in which the stop log structure is to be built were shovel tested on a 20 m grid. The water table was encountered at depths of 15-25 cm BS in shovel tests excavated on the banks of the channel, and geomorphological testing was confined to a very small portion of the buried soil surface. A single soil horizon consisting of dark grayish brown silt was observed in these tests. Cultural material was not recovered in any of the shovel tests excavated in this area.

Water Level Control Structure E

Project Location: N 840,300/E 391,725
Dimensions: 60 ft long; 5-25 ft wide
Maximum Depth of Construction Impact: 8 ft
Elevation: 420 NGVD
Survey Conditions: Gravel dike across Lower Stump Lake-Illinois River channel
Survey Methods: Partially under water; visually examined

Description. Water Level Control Structure E consists of three 42 inch CMP culverts with sluice gates and gatewells. This structure is to replace three existing culverts in the gravel dike across the channel between Lower Stump Lake and the Illinois River (Figure 5). The proposed location of Water Level Control Structure C was partially under water at the time of survey. The proposed location of this water control structure was visually examined, but no cultural properties were identified.

Water Level Control Structure F

Project Location: N 844,950/E 387,600
Dimensions: 70 ft long; 28 ft wide
Maximum Depth of Construction Impact: 5 ft
Elevation: < 420 NGVD
Survey Conditions: Mouth of large, water-filled channel draining into the Illinois River
Survey Methods: Not surveyed

Description. Water Level Control Structure F consists of a four chamber concrete fish passage. This structure is to be built in the mouth of a large, water-filled channel that drains into the Illinois River (Figure 6). The proposed location of Water Level Control Structure F is permanently under at the time of survey, and, consequently, can not be examined.

Long Lake-Illinois River Pump Stations

Two pump stations are to be built in connection with the Stump Lake HREP/EMP. The proposed location for the pump stations cross-cuts the construction corridor of the exterior levee, connecting the upper end of Long Lake and with the Illinois River.

Project Location: N 859,450/E 385,000
Dimensions: 450 ft long; 100 ft wide
Maximum Depth of Construction Impact: 6 ft
Elevation: 420-425.6 NGVD
Survey Conditions: Bottomland forest; seasonal cottage building site
Survey Methods: Systematic walkover; geomorphological investigation

Description. Two permanently located pumps operated by a single drive unit will be constructed on the Illinois River. The outlets/inlets for the reversible pumping system will be located at the upper end of Long Lake, where Deep and Long Lakes merge, and the Illinois River shore (Figure 9). The proposed location of the pump stations was surveyed through systematic walkover, but no cultural properties were identified. The geomorphological investigation conducted in this area involved the excavation of three backhoe trenches and the advancement of six soil cores. A buried native soil surface identified below nearly a meter of historical deposits in the three trenches appears to have developed in late Holocene Illinois River natural levee deposits. It appears that this buried surface has some potential for containing cultural resources, though no cultural material was identified during examination of the walls of the three trenches in which it was identified. The results of the geomorphological investigation are described in detail in Chapter VI.

Boat Ramp and Access Road

A boat ramp and access road are to be built at the south end of the project area in connection with the Stump Lake HREP/EMP.

Project Location: N 840,225/E 391,800
Dimensions: 155 ft long; 75 ft wide
Maximum Depth of Construction Impact: Existing ground surface
Elevation: 420 NGVD
Survey Conditions: Previously disturbed by road and dike construction
Survey Methods: Visual examination; geomorphological investigation

Description. A boat ramp and access road are to be built in an area adjacent to the gravel dike that presently crosses the channel between the south end of Lower Stump Lake and the Illinois River (Figure 5). Both the boat ramp and access road will be constructed from earthen fill and covered with crushed stone. The proposed location of the boat ramp and access road has

been disturbed by the earlier construction of the gravel dike and a gravel road. The area was visually examined, but no cultural properties were identified. A single soil core advanced within the proposed location of the boat ramp turnaround indicates the area is covered by more than 1.8 m of historical deposits and has little to no potential for containing buried cultural resources.

CHAPTER VI. GEOMORPHOLOGICAL INVESTIGATIONS

Introduction

This chapter describes the results of geomorphological investigations conducted at Stump Lake during the present survey. The purpose of the investigation was to determine the relative ages of surfaces within the project area, and to evaluate the potential of those surfaces for containing cultural resources.

Results

A total of seventeen "JMC"sampling tube cores, approximately 2.54 cm diameter, were advanced at eight widely-distributed soil testing (ST) locations, and an additional core was advanced at a location outside the extreme northeastern boundary of the project area (Figure 13). Four backhoe trenches, were excavated at the two areas within the project area expected to have the highest potential for containing buried cultural deposits (Figure 13).

Three distinct depositional environments were identified within the project area on the basis of data obtained through soil coring and backhoe trenching. These depositional environments include: 1) the southern and eastern project sector; 2) the central and northern project sector; and, 3) the northeastern project sector.

The Southern and Eastern Project Sector

The southern and eastern project sector was defined on the basis of data recovered from five soil cores advanced at soil test locations ST-5, ST-6, ST-7, and ST-8. This depositional environment includes the construction corridors of all the interior levees, the proposed locations of nine water control structures and a boat ramp, and the portion of the exterior levee construction corridor located between 0+00 and 120+00 (Figures 13, 14 & 15). The soil-coring results indicate this portion of the project area is the very late Holocene to historic floodplain. The permanent water table was encountered within 0-40 cm of the surface, and the soil profiles show either thick historical alluvium and/or very poorly-drained, gleyed, wetland soils. The depth of the historically-deposited alluvium covering the southern and eastern project sector appears to exceed the maximum depth of construction impact (3 ft) in this portion of the project area, extending to a depth of at least 1.1 m (3.6 ft) at ST-5, and to a depth greater than 1.8 m (5.9 ft) at ST-6, ST-7, and ST-8 (Table 4).

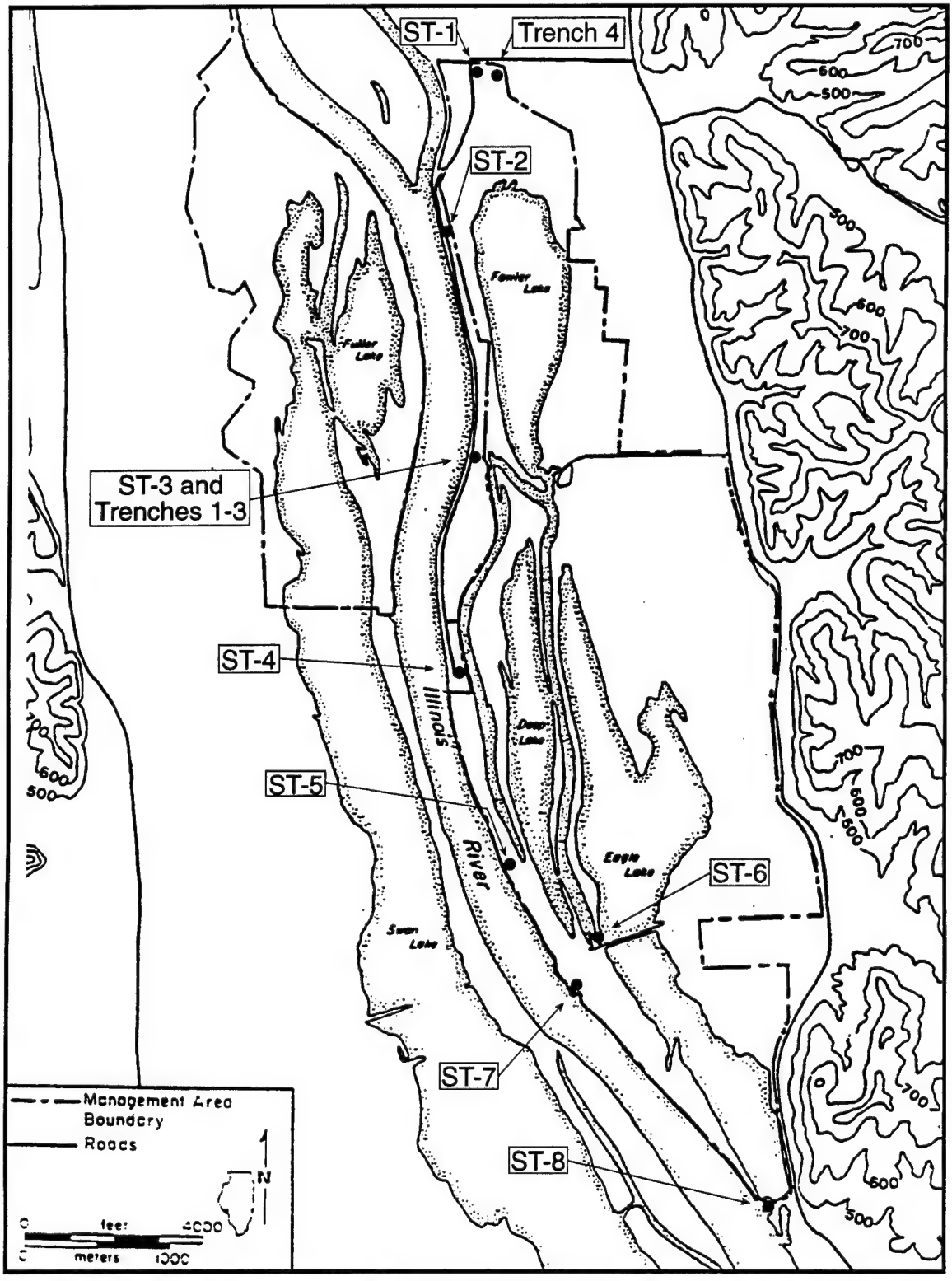

Figure 13. Location of soil test (ST) locations ST-1 - ST-8 and Trenches 1-4 within the Stump Lake Complex HREP/EMP project area.

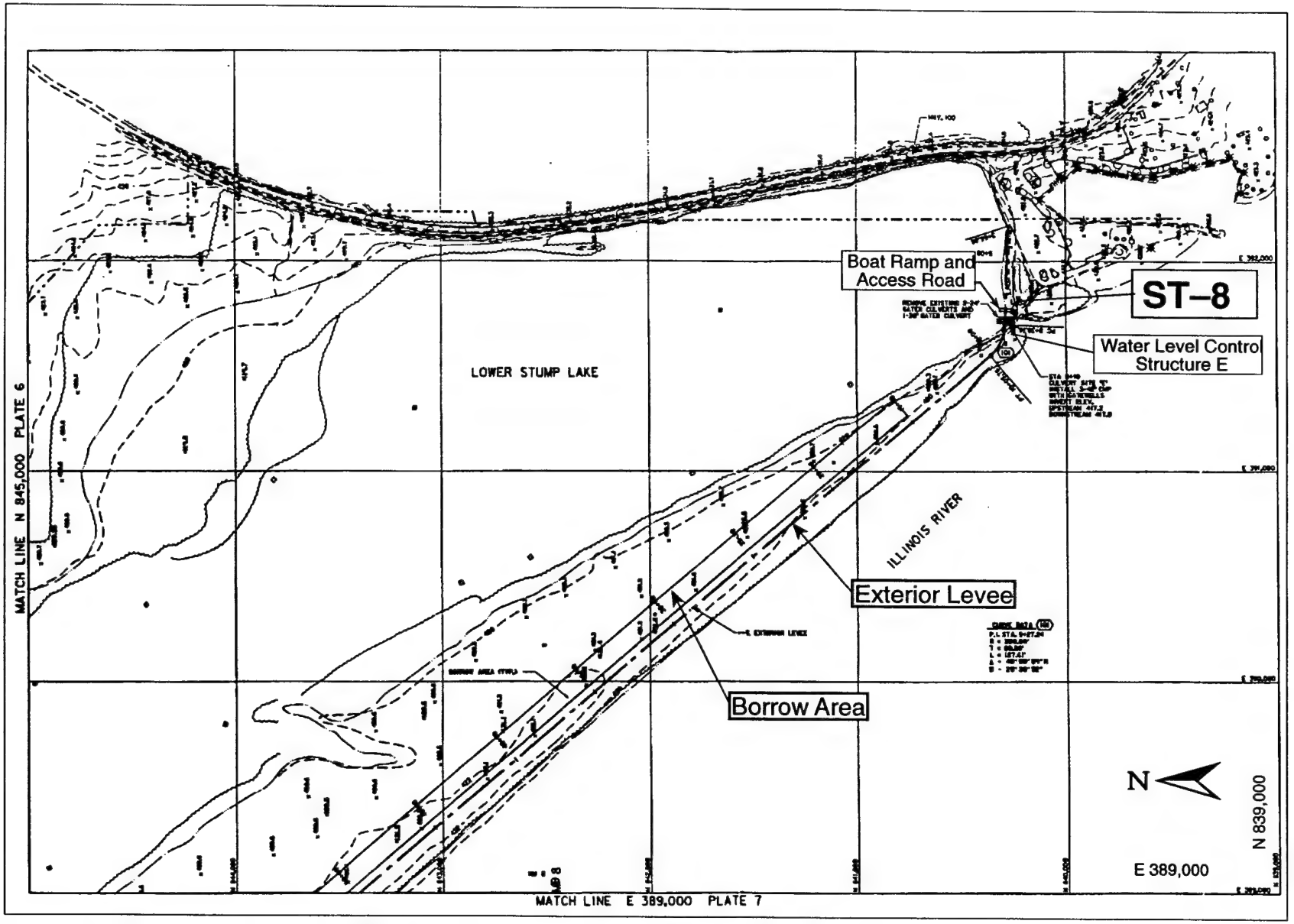

Figure 14. Topographic location of ST–8 within the Stump Lake Complex HREP/EMP project area.

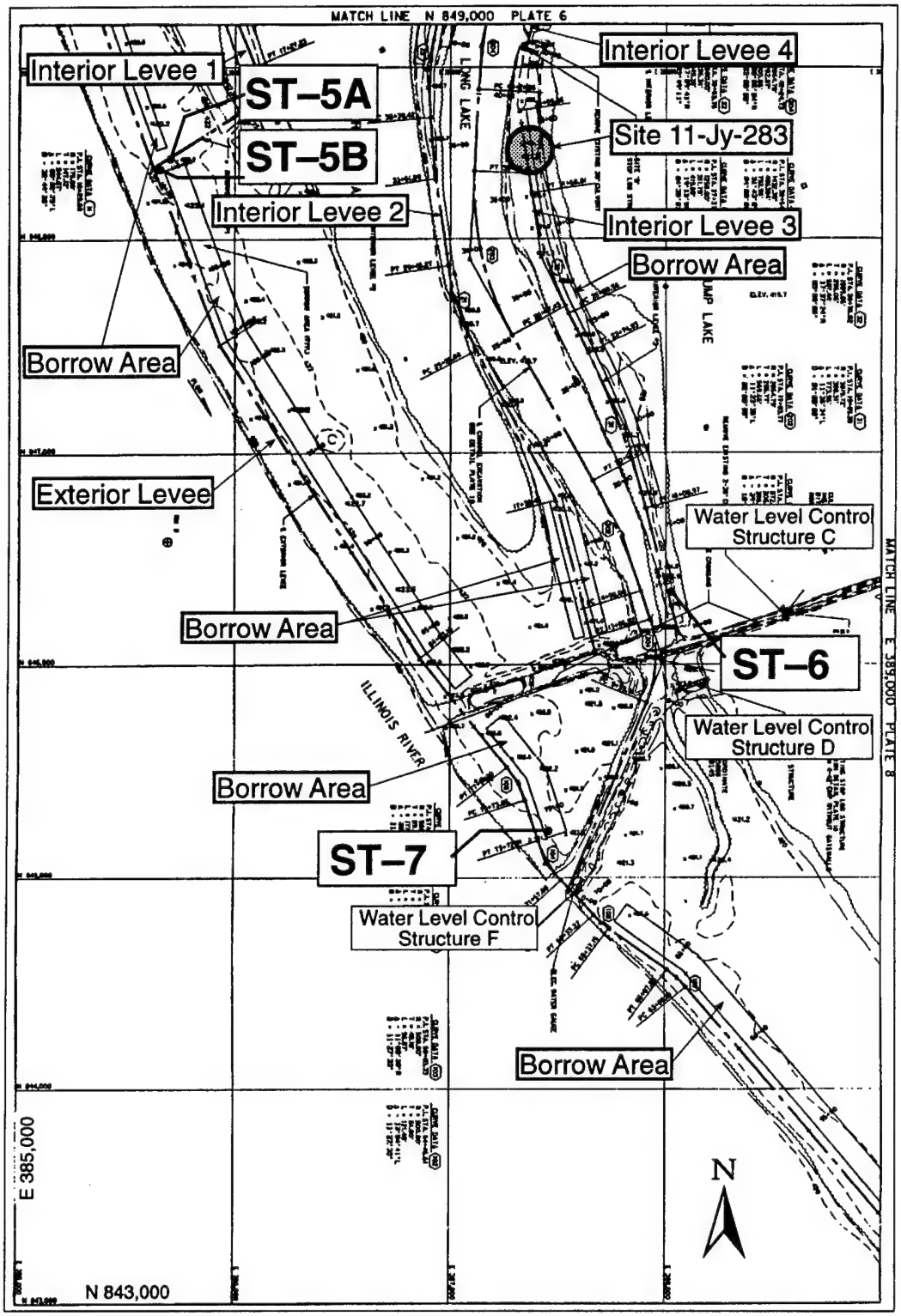

Figure 15. Topographic location of ST–5A, ST–5B, ST–6, and ST– 7, within the Stump Lake Complex HREP/EMP Project Area.

Table 4. Depth of PSA Identified at Soil Testing (ST) Locations and Backhoe Trenches, Stump Lake HREP

Designation	Project Location	Depth of Soil Test/ Trench (cm)	Deposit (cm)
ST-1	Exterior Levee 300+00	180	none-eroded A-horizon
ST-2A	Exterior Levee 251+50	180	80
ST-2B	Exterior Levee 251+50	160	160
ST-3A	Exterior Levee 204+00	25-65 refused from concrete & gravel	65
ST-3B	Exterior Levee 204+00		
ST-3C	Exterior Levee 204+00		
ST-3D	Exterior Levee 204+00		
ST-3E	Exterior Levee 204+00		
ST-3F	Exterior Levee 204+00	240	90
ST-4A	Exterior Levee 152+75	120	95
St-4B	Exterior Levee 152+75	160	90
ST-5A	Exterior Levee 110+00	65 refused from medium sand & gravel	65
ST-5B	Exterior Levee 110+00	110	110
ST-6	Interior Levee 11+50	180	180
ST-7	Exterior Levee 74+00	180	180
ST-8	Exterior Levee 7+30	240	240
Trench 1	Exterior Levee 204+00	135	90
Trench 2	Exterior Levee 204+00	128	95
Trench 3	Exterior Levee 204+00	160	95
Trench 4	Exterior Levee 315+00	125	non eroded A-horizon

The southern and eastern project sector appears to have very little potential for containing buried cultural deposits.

The Central and Northern Project Sector

The central and northern project sector was defined on the basis of data recovered from Trenches 1-3 and ten soil cores advanced at soil test locations ST-2, ST-3, and ST-4 (Figures 16, 17 & 18). This depositional environment includes the portion of the exterior levee construction corridor located between 120+00 and 295+00, as well as the proposed location of the Illinois River-Long Lake pump stations (Figure 13). Trenches 1-3 and ST-3 (Figure 17) were placed within the proposed construction corridor of the pump stations, which cross-cuts the construction corridor of the exterior levee at approximately 204+00.

Five of the six soil cores advanced at ST-3 met refusal at 25-50 cm due to the presence of concrete and/or gravel fill. Trenches 1 and 2 were subsequently excavated through the obstruction and into the native soils below, penetrating, respectively, 90 cm and 95 cm of historic fill and recent alluvium (Figure 14). Below the fill lies the native soil. The water table, which was encountered at a depth of approximately 130 cm, quickly filled both trenches and precluded deeper soil investigations. The native soil identified below the historical deposits in Trenches 1 and 2 appears to have developed in late Holocene Illinois River natural levee deposits. The deposits are somewhat well-drained and show an A-Bw horizon sequence.

Trench 3 was excavated approximately 55 m east of Trenches 1 and 2. The water table was encountered at a depth of approximately 160 cm in Trench 3, and groundwater began filling the bottom of the trench. This deeper trench, however, showed the buried native surface soil and a second buried surface beginning at a depth of about 155 cm (Figure 19). The buried native surface soil underlies about 95 cm of historical flood laminae. The buried A horizon continues to a depth of approximately 126 cm, followed by a Bw horizon similar to that identified in Trenches 1 and 2 (Figure 19). Groundwater precluded further investigation of the second buried A horizon and subjacent horizon(s) below a depth of 155 cm.

Trenches 1-3 and ST-2A, ST-3, and ST-4 were placed on a natural levee ridge paralleling the Illinois River. The elevation of the natural levee ranges from 424 to 426 NGVD. The native soil was observed at depths of 80-95 cm (2.6-3.1 ft) in soil cores advanced at ST-2A, ST-3, and ST-4. ST-2B was placed near the base of the eastern margin of the levee, in a swa le, at an elevation of approximately 422 NGVD. In contrast to ST-2A, the historic alluvium deposit at ST-2B extends to a depth of 1.6 m (5.3 ft). This indicates that the historic alluvium deposit in the low-lying area immediately east of the of the natural levee is substantially deeper than the alluvial deposit covering the levee ridge. This is to be expected since the lower swale is prone to more frequent flooding than the levee ridge.

The native surface identified immediately below the historical alluvium in the central and northern project sector exhibits characteristics indicative of a landscape that was stable for a significant period of time. The native soil is somewhat well-drained and has some potential for

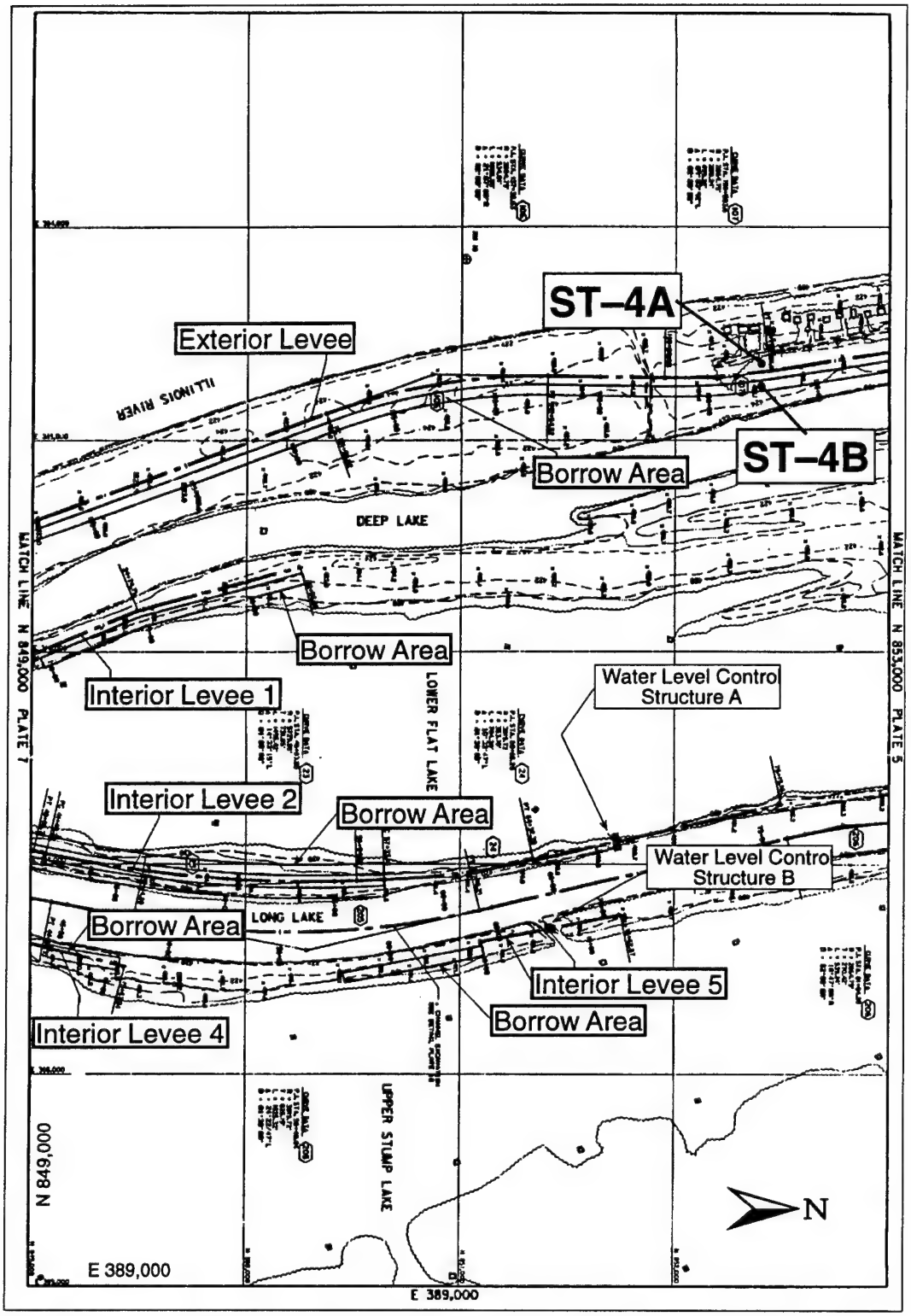

Figure 16. Topographic location of ST–4A and ST–4B within theStump Lake Complex HREP/EMP project area.

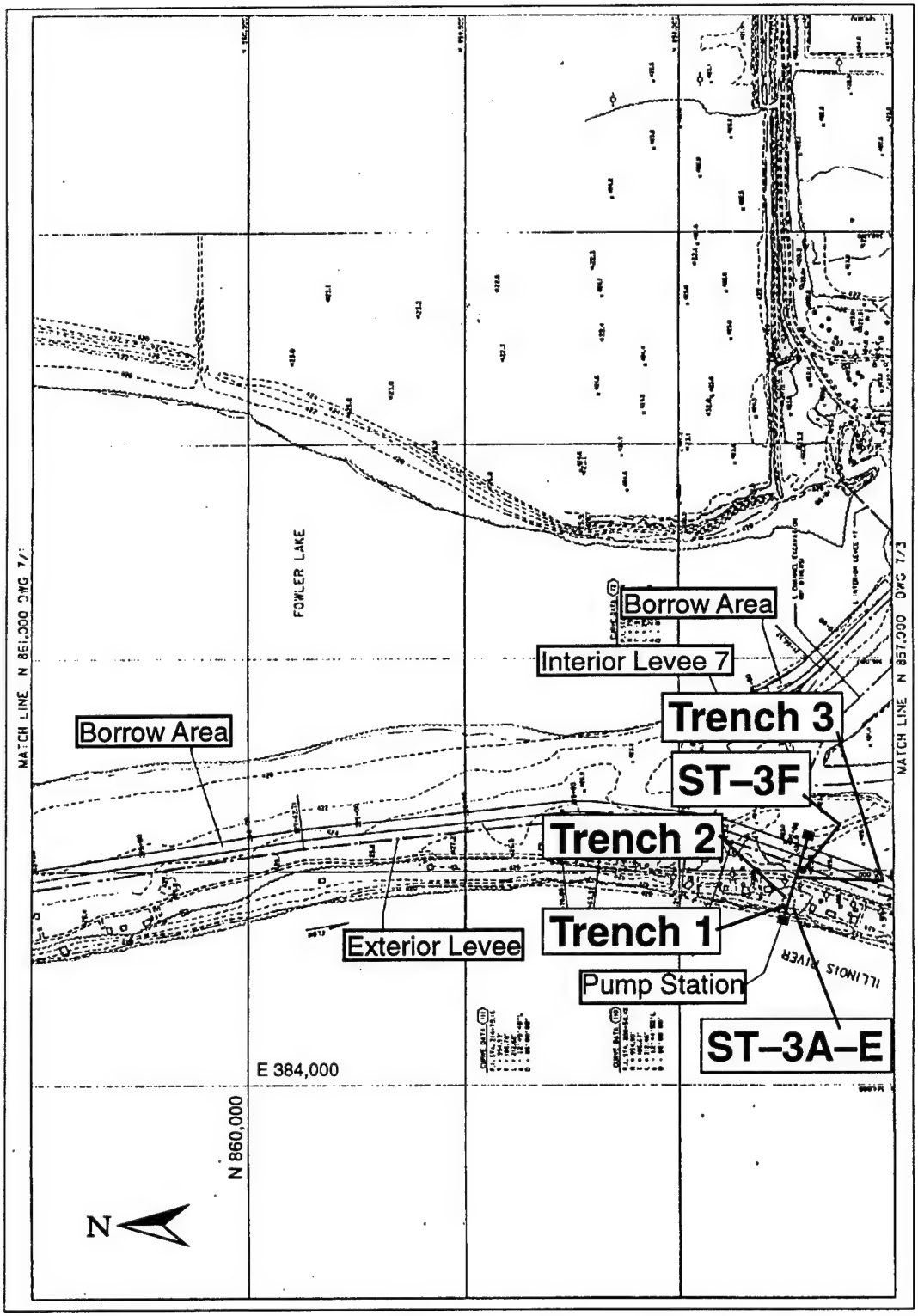

Figure 17. Topographic location of ST-3A–F, and Trenches 1–3 within the Stump Lake Complex HREP/EMP project area.

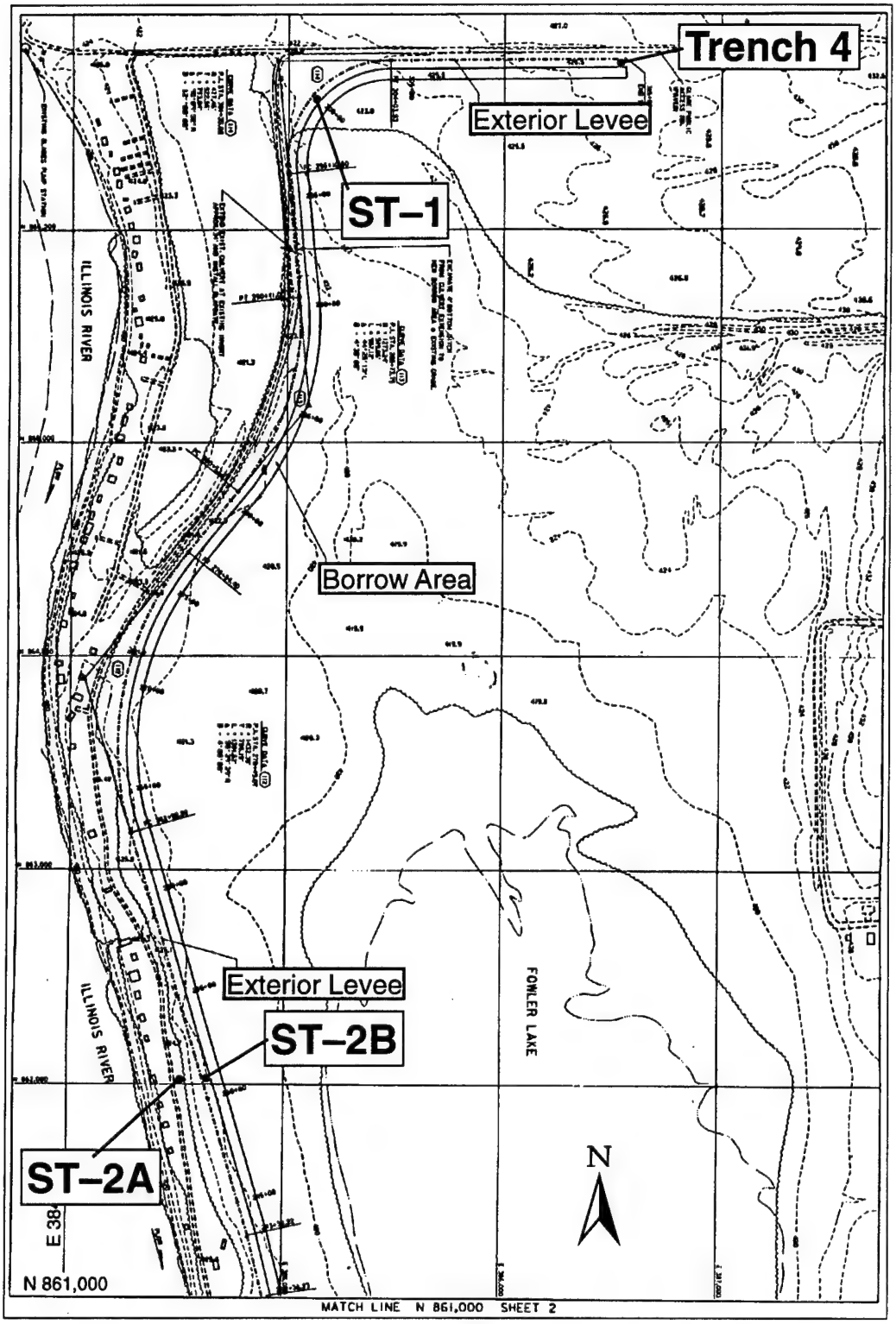

Figure 18. Topographic location of ST-1, ST-2A, and ST-2B within the Stump Lake Complex HREP/EMP project area.

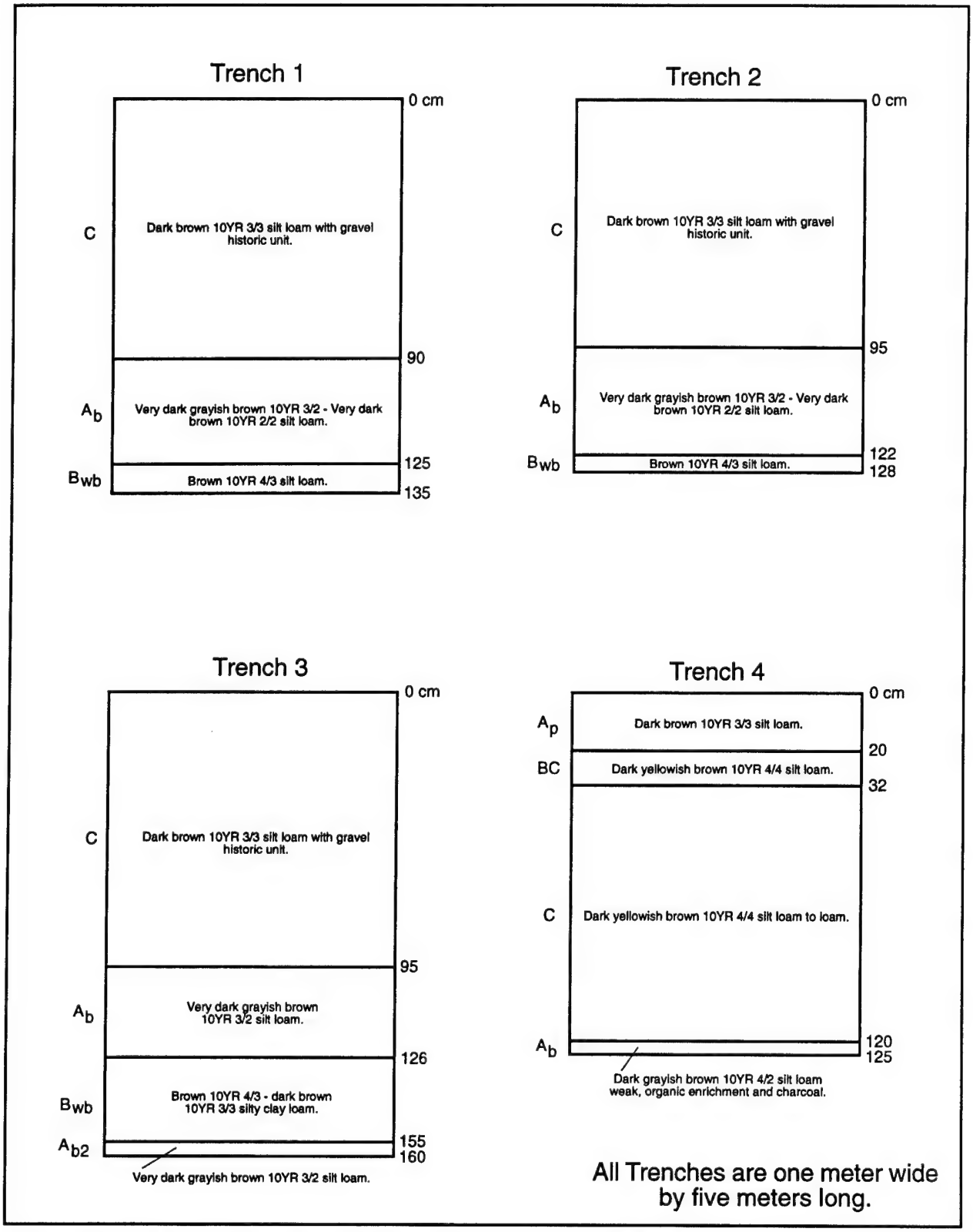

Figure 19. Wall profiles, trenches 1-4, Stump Lake Complex HREP/EMP project area.

containing cultural resources. While the distribution of this buried surface within the project area is not well established, it appears likely that it occurs within the impact zone of the exterior levee construction corridor (0-4 ft BS) only where the borrow area is located on the crest or upper escarpment of the natural levee, i.e., at or above an elevation of approximately 424 NGVD. The borrow area of the exterior levee is located at or above an elevation of 424 NGVD between 130+00 and 165+00, and between 190+00 and 230+00.

The potential for the second, deeper buried A horizon identified in Trench 3 to contain cultural resources is less clear because of water table problems. However, a soil core was advanced at this location to a depth of 240 cm, and the basal deposits showed gleyed, poorly-drained conditions. Based on this observation, the potential for the lower buried A horizon containing cultural materials is probably low.

The Northeastern Project Sector

The northeastern project sector was defined on the basis of data recovered from Trench 4 and a soil core advanced at soil test location ST-1 (Figure 18). This depositional environment includes the portion of the exterior levee construction corridor between 295+00 and 315+00 (Figure 13). The northeastern project sector is very different from the two previously discussed depositional environments. Two deposits were identified in this part of the project area, including a very late Holocene tributary fan capping the surface, and an underlying, poorly-drained, late Holocene main valley channel fill. The surface A horizon that had previously developed in the fan has been removed by surface erosion, and, as a consequence, a Bw horizon now lies at the surface.

A buried A horizon was identified at a depth of 120 cm (3.96 ft) in Trench 4, and at a depth of 200 cm (6.6 ft) BS in a soil core advanced outside the northeastern boundary of the project area (Figure 4). The buried A horizon is developed in main valley alluvium and is somewhat poorly drained. The buried A horizon appears to pinch out to the west, toward soil test location ST-1, as poorly-drained, gleyed soil conditions are more pronounced in this area. These soil profiles suggest that if the northeastern project sector contains cultural resources, it is likely they are of very late Holocene age and occur at or near the surface. Drainage conditions improve outside the project area to the east, and the potential of the buried A horizon to contain cultural material improve.

Conclusion

The results of the present study indicate that a thick layer of historical alluvium covers most of the project area. The historical deposit covering the southern and eastern project sector exceeds the maximum depth of levee-construction impact, and is underlain by very late Holocene to historic floodplain soils. This portion of the project area, which includes the construction corridors of all the interior levees and approximately the southern third of the exterior levee construction corridor, has very little potential for containing cultural resources.

The native soils underlying the historic alluvium deposit covering the central and northern project sector appear to have developed in somewhat well-drained, late Holocene Illinois River levee deposits. The uppermost of the two buried native surfaces identified in this portion of the project area, which includes approximately the northern two-thirds of the exterior levee construction corridor indicates a landscape that was stable for a significant period of time. As a consequence, it appears that this buried surface has potential for containing cultural resources, although no cultural material was identified during examination of the walls of the three trenches in which it was identified. The buried surface extended from a depth of approximately 95 cm to 126 cm (2.97-5.9 ft) in trenches excavated at the proposed location of the Illinois River-Long Lake pump stations, placing it within the impact zone of both the the pumping station (0-6 ft) and the exterior levee construction corridor (0-4 ft). However, after through trenching and coring the disturbed soil was found to a depth of 6 ft and no cultural material was found below that depth. After consultation with the State Historic Preservation Agency (SHPO) the project was modified to reduce the borrow depths from the original 4 ft to 2.5 ft in the northern two-thirds portion of the exterior levee, to avoid that specific soil. In the event that the modified depth of 2.5 ft is insufficient to obtain borrow material from, all parties have agreed to archaeological monitoring of such areas.

The northeastern project sector includes the extreme northern end of the exterior levee construction corridor. A very late Holocene fan covers main valley alluvium in this portion of the project area. A buried A horizon was identified at a depth of 120 cm (3.96 ft) in a trench excavated at the northeastern project area boundary, but no cultural materials were observed during an examination of the walls of the trench. This portion of the project area appears to have limited potential for containing buried cultural resources. However, the potential for buried cultural deposits is likely to be higher farther to the east, outside the project area.

Hajic (1987) has developed a model that evaluates various landform assemblages within the lower Illinois River valley in terms of their potential for containing buried archaeological sites. Most of the Stump Lake Complex HREP/EMP project area, including the construction corridors of all the interior levees, the portion of the exterior levee construction corridor located between 10+00 and 265+00, and the proposed locations of all the water level control structures and the pump stations, is located on a landform assemblage Hajic identifies as "Illinois River natural levees, recent and relict" (1987). This landform assemblage is evaluated as having high potential for containing buried archaeological sites within three meters of the modern ground surface, and little or no potential below this depth (Hajic 1987).

The results of the present study modifies Hajic's predictions. For example, soil-coring data obtained during this investigation suggest the landforms underlying the historic alluvium deposit covering the southern and eastern portions of the project area represent very late Holocene to historic floodplains having little potential for containing cultural resources, rather than natural levees having high potential for containing buried archaeological sites. This site specific study suggests that broadly-defined landform assemblages may require refinement when evaluating the potential of specific areas for containing buried cultural deposits.

Fairly well-drained buried surfaces such as those identified in the central and northern portions of the Stump Lake project area would be expected to occur in areas evaluated as having high potential for contining buried archaeological sites. To this extent, then, the results of the present study are consistent with Hajic's (1987) predictions.

Data obtained through soil coring indicate the extreme northeastern portion of the project area is located on a tributary fan, which is consistent with Hajic's (1987) mapping of Stump Lake landform assemblages. Hajic evaluated these alluvial fan deposits as having high potential for containing buried archaeological sites within seven meters of the modern surface (1987). The fan deposits examined during the present investigation, however, were only slightly more than one meter deep, and were evaluated as having limited potential for containing buried cultural resources.

CHAPTER VII. CONCLUSIONS AND RECOMMENDATIONS

Introduction

The project Scope of Work called for a Phase I archaeological survey and geomorphological evaluation of a 207 acre area within the Stump Lake Waterfowl Management Area (Appendix A). The objectives of the Phase I survey were to identify and provide a preliminary assessment of historic properties present within areas to be impacted by construction activities associated with the Stump Lake Complex Habitat Rehabilitation Enhancement Project (HREP), Environmental Management Program (EMP)HREP/EMP. The primary objective of the geomorphological investigation was to document areas within the project area with little or no potential to contain historic properties.

All cultural properties located during the survey were to be evaluated in terms of the National Register of Historic Places (NRHP) criteria of significance (36CFR Sec. 60.6, Federal Register 1976). The criteria are:

> The quality of significance in American history, architecture, archaeology, and culture is present in districts, sites, buildings, structures, and objects of state and local importance that possess integrity of location, design, setting, materials, workmanship, feeling, and
>
> a) That are associated with events that have made a significant contribution to the broad patterns of our history; or
>
> b) That are associated with the lives of persons significant in our past; or
>
> c) That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic value, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
>
> d) That have yielded, or may be likely to yield, information important in prehistory or history.

Criteria considerations: ordinarily cemeteries, birthplaces, or graves of historical figures, properties owned by religious institutions or used for religious purposes, structures that have been moved from their original locations, commemorative in nature, and properties that have achieved their significance within the past 50 years shall not be considered eligible for the National Register of Historic Places.

Conclusions and Recommendations

A records and literature review conducted prior to the start of field work indicated that nine archaeological sites and one isolated find have been documented within the Stump Lake Waterfowl Management Area, but that these cultural properties are concentrated on the topographically higher ground along the eastern margin of the Management area. The site files of the Illinois Historic Preservation Agency indicate that no previously recorded archaeological sites are located within the Stump Lake HREP/EMP project area.

Review of the dates of original purchase for the land comprising the Stump Lake Management Area suggests that the majority of the land within the project area was purchased as land speculation rather than by settlers. The swampy, low-lying terrain within the project area appears to have been unsuitable for agricultural purposes, and, thus, may have discouraged settlement in the early and mid-nineteenth century. Archival research conducted by Clifton et al. (1989) and Schroeder (1992), however, indicates that X historic sites dating to the late nineteenth to early twentieth century may be located within the project area.

All but a small, flooded portion of the project area was surveyed through systematic shovel testing or systematic walkover during the present investigation. One historic property, site 11-Jy-283, was recorded during the field survey.

The location of site 11-Jy-283 corresponds to the location of potential historic site 8 identified by Schroeder (1992). This site is an early to mid-twentieth-century residence/seasonal cottage located on an isthmus between Upper Stump Lake and Long Lake, near the north end of Interior Levee #3. The site consists of a brick chimney, several concrete pads, a cistern, and a brick foundation-pier. No standing structures are present at site 11-Jy-283, and no artifacts were recovered in shovel tests excavated in the site area. Due to the relatively-recent age of the site, and its lack of integrity, the site does not appear to meet the NRHP criteria of significance. Consequently, the site is evaluated as not potentially eligible for inclusion in the NRHP. Further archaeological investigation of site 11-Jy-283 is not recommended.

The geomorphological investigations conducted during the present survey included soil coring and backhoe trenching. The results of the investigation show that thick late Holocene to historical deposits are present in the project area. The sources of these deposits are the Illinois River channel and Possum Creek. The recent deposits in the southern and eastern portion of the project area extend to a depth well below the maximum depth of the construction impact, and cap a wet floodplain surface that was probably not suitable for permanent prehistoric settlement.

The northeastern portion of the project area also appears to have limited potential for containing buried cultural resources. Very late Holocene tributary fan deposits cap poorly-drained, late Holocene main valley channel fill at this end of the project area.

Two buried native surfaces were identified beneath recent deposits in backhoe trenches excavated on the natural levee paralleling the Illinois River, in the central portion of the project area. One of these surfaces occurs at a depth of approximately 90 cm BS, and the other at a depth of 155 cm BS. The upper surface is a well-drained native soil that appears to have developed in late Holocene Illinois River natural levee deposits. The distribution of this buried surface within the project area is not well defined, but it appears likely that it occurs within the impact zone of the exterior levee construction corridor (0-4 ft BS) only where the borrow area is located on the crest or upper escarpment of the natural levee. This buried surface has some potential for containing cultural resources, though the probability that it does is judged to be low. No cultural material was observed in this native surface soil during careful inspection of the walls of the three backhoe trenches in which it was identified. The lower buried surface occurs below the maximum depth of construction impact outside the construction corridor of the pump stations, and its potential for containing cultural resources is judged to be low. Further archaeological investigation is not recommended for either of the buried surfaces identified in this portion of the project area.

It appears that the construction activities associated with the proposed Stump Lake HREP/EMP will not have an adverse effect on significant cultural resources. It is recommended that construction proceed without further evaluation of historic properties.

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APPENDIX A
Scope of Work

03/31/93

Delivery Order #_
Phase I Archaeological Survey for
Historic Properties within
the Stump Lake Complex,
Habitat Rehabilitation Enhancement Project (HREP),
Environmental Management Program,
Pool 26, Illinois River
Jersey County, Illinois

1. Statement of Work. The purpose of this delivery order is to conduct Phase I archaeological survey for historic properties within the Stump Lake Complex, Habitat Rehabilitation Enhancement Project (HREP), Environmental Management Program (EMP) located in Pool 26, Illinois River (mile 7.2 to mile 12.7 along the left [east] bank), Jersey County, Illinois. The Stump Lake Complex is also called the Stump Lake Waterfowl Management Area. All work accomplished by the Contractor will be reviewed and approved by the Corps of Engineers, St. Louis District Contracting Officers Representative (COR).

1.2 The main objective of this work order is to locate and identify historic properties present within areas to be impacted by the Stump Lake EMP-HREP.

1.3. The major constituents of the work order are: 1) Phase I pedestrian and shovel/soil core assisted subsurface survey sufficient to determine the location of historic properties potentially eligible for the National Register of Historic Places (NRHP) which may be affected by the construction of the riverside (exterior) levee, seven interior levees, borrow areas, six sluice gated structures, two stop log drainage structures, and four sluice gated concrete "Fish Passage" structures, and a pump station on the Illinois River and a pump station on Long Lake, 2) geomorphological support with hand coring and/or subsurface testing to document areas within the construction area with little or no potential to contain historic properties, 3) documentation based upon archival sources, subsurface testing and visual assessments sufficient to determine project impacts, 4) preparation of a high quality technical report on the archaeological and geomorphlogical results of the investigations which meets the Corps Scope of Work and the Illinois State Historic Preservation Office Guidelines for Archaeological Reconnaissance Surveys/Reports, and 5) recommendations for any Phase II testing necessary to determine NRHP eligibility.

2. Project Description. The St. Louis District is proposing to construct a low riverside levee, seven low level interior levees, water control structures at six locations, two pumping systems and slough dredging. See attached map for construction locations. The purpose of the project is to improve wetland and aquatic habitats

for waterfowl and fish by decreasing sedimentation and improving water level control in the five open wetland units in the complex. This project is a part of the Environmental Management Program which as established by PL-99-662 to enhance and rehabilitate the Upper Mississippi River system. The proposed project is located on Corps of Engineers fee land managed by the Illinois Department of Conservation (IDOC) under a cooperative agreement with the U. S.Fish and Wildlife Service and the Corps of Engineers.

2.1 Water levels at the Stump Lake complex have been controlled by regulation at the Melvin Price Locks and Dam located downstream for the past few years. Prior to construction of that feature, the water levels were controlled by the previous Lock and Dam 26, which was built around 1933. As a consequence of dammed water backing up the Illinois River, the Stump Lake complex is inundated for a portion of each year. This inundation has lead to sedimentation of varying thicknesses across the Stump Lake complex; an average of .5 inch of silt deposition per year across the project area was estimated in the Definite Project Report. Silt deposits average about 4 feet thick at the north end of the proposed riverside levee and taper to about 2 feet thick at the proposed levee's south end, according to IDOC personnel. The 4 ft. thick silt layer at the north end of the project is shown in several borings made by the St. Louis District. Well defined silt layers were not recorded in the interior levee borings, however. Silt deposits taper to the east according to IDOC personnel.

2.2 The portion of the Stump Lake complex east of the proposed construction areas (and west of the bluff line) will not experience an increase in inundation due to the EMP project. The pool stage along the Illinois River here is 419 NGVD. The eastern portion of the Stump Lake complex lies between the 420 and 425 contour lines, except at the bluff base where the elevation rises above 435. The entire Stump Lake complex floods to 424.5 elevation on average every two years and to 429.5 elevation on average ever 5 years. Therefore no investigations will be conducted in the eastern area.

2.3 Possible construction impacts are as follows:

2.3.1. Riverside (exterior) levee will consisting of a 5.5 mile low profile earthen levee parallelling the Illinois River shore line. The clearing, levee construction, borrow pits and staging areas will be confined to a corridor not to exceed 160 feet. Depth of ground disturbance associated with levee construction is 1 - 2 feet. After vegetation clearing and grubbing the levee footprint will be disced to a depth of 6 inches. Borrow pit depths range from 1.5 to 4 feet.

2.3.2 Seven low level interior levees (elevation 422 NGVD) will be constructed in specific low spots around the perimeters of the 4 main wetland compartments (Fowler, Flat, Lower Stump, Upper Stump). The interior levees will total about 4.5 miles. Like the riverside

levee, the construction corridors on these will not exceed 180 feet and ground disturbance will be within the upper two feet.

2.3.3 Water control structures will be constructed at six locations. Six sluice gates (coffer dams) will be constructed in areas of about 60 feet by 5 to 25 feet; excavation will be to a depth of about 8 feet. Two stop log drainage structures will be constructed in areas about 90 x 30 feet, excavations depths will be 8 feet. Four sluice gated fish passages will be constructed in areas about 70 x 28 feet; excavation depths will be about 5 feet.

2.3.4 All of Long Lake and the upper portion of Deep Lake will be dredged to form a channel 60 feet wide with depths at two elevations (414.0 and 4.16.0) alternating at about 500 foot intervals. Dredge material will be deposited in Flat Lake. The dredging will remove recent sediments and no archaeological investigation of this will be required.

2.3.5 The two pump stations will disturb areas about 450 x 100 feet, ground disturbance will be to a depth of about 6 feet. Bank shaping will be required along about 100 feet of the Illinois River shore prior to ripraping.

3. Background. Correspondence with the Illinois Historic Preservation Agency dated March 12, 1993 indicated that one prehistoric site may be located with in the construction area; site 11JY8 is located in the vicinity of the southern end of the riverside (exterior) levee. Several prehistoric and historic sites were recorded in the Stump Lake complex east of the project area by IDOC. Site 11JY228, a light lithic scatter is located near the Stump Lake Public Access Area. Eight potential historic sites (#1, 2, 4, 5, 8, 9, 10, 11) have been recorded by IDOC in the project area in or near construction areas. All date to the early 20th century except one which dates to 1872. These were described as residence; those along the sloughs may be summer cottages. A survey of the Illinois River shoreline was conducted in the mid 1970s by the Contract Archaeology Program, Kampsville, Illinois for the St. Louis District. While the survey corridor extended 300 ft. back from the shoreline, only visible ground was examined and apparently no subsurface testing was conducted. Thus the lack of documented sites here may result from poor ground visibility.

4. Specifications.

4.1 A literature search will be conducted to provide a succinct prehistoric and historic overview pertaining to the immediate area. If applicable, the literature search will include, but not necessarily be confined to, archaeological site reports, plat books, atlases, maps, county histories, soil series maps, and other relative documentation.

4.2 In conjunction with the pedestrian survey, the Contractor will hand excavate, handheld soil corer and /or use heavy equipment necessary to investigate the subsurface potential for buried cultural resources at locations where construction may/will extend below the zone of recent silt deposition. Examination of existing maps and geomorphological data, including boring information compiled by the St Louis District, should precede the detailed field investigations. It is anticipated that survey of the levee construction corridors (totalling about 204 acres) will require 2 transects with shovel tests and/or hand held core at 20 m intervals. The water control structure locations (totalling about .5 acres) and pump stations (totalling about 2.0 acres) will be similarly tested on a 20 m grid in the nonaquatic portions only. About 207 acres will be impacted by construction. Additional subsurface testing may be required at locations where construction will extend beyond the depth of the handheld corer.

4.3 The Contractor shall discuss the general implications of the documentary and geomorphological results within the framework of site management. The majority of the geomorphological analaysis shall be limited to field interpretation with only very limited lab analysis. The geomorphological investigations shall be conducted in support of the detailed archaeological interpretation and determination of site integrity and stratigraphic limits. Also, results of the geomorphological investigations should be discussed in the context of the geomorphological study of the lower Illinois River valley previously prepared for the St. Louis District (St. Louis District Historic Properties Management Report No. 34).

4.4 The Contractor shall provide a sufficient level of investigation (documentary, archaeological, and geomorphological) for the St. Louis District to assess the potential for the proposed construction areas to contain significant archaeological and architectural sites. Both historic and prehistoric sites will be addressed. Complete legal descriptions will be provided. Appropriate site forms will be submitted to the St. Louis District. All sites shall be plotted on U.S.G.S. topographical maps and submitted with the final report.

4.5 The Contractor shall make recommendations for any Phase II testing that may be necessary to determine NRHP eligibility of each resource encountered as well as indicate the condition of the resource and potential impacts. The Contractor shall also indicate those resources that will require no additional investigations. A formal determination of eligibility is not a requirement of this work order. However, any resource which can be clearly evaluated as eligible or not eligible for listing on the NRHP should be evaluated and included in the report recommendations.

4.7 A brief letter report detailing the preliminary field results with initial management options for a Phase I no effect or Phase II

archaeological testing/mitigation shall be provided to the St. Louis District seven days after completion of the field work.

4.8 Photographs: Photographs shall be black and white prints and color slides prepared in accordance with the Contract, Section C, 7.2 .5 and 7.2.6. These photographs shall show details of field conditions, features, profiles, artifacts, or other evidence of past cultural activity. The black and white prints included in each copy of the final report shall be selected as specified in paragraph 7.1 below.

4.9 Monumentation and Contour Mapping. The Contractor is responsible for establishing a site datum at each site located using survey monuments provided by the Government.

4.10 Laboratory Procedures. Artifacts collected during survey shall be cleaned, permanently labeled, and catalogued according to the St. Louis District Curation Standards, (Contract, Section C, Part II). The contractor shall analyze the collection by separating the artifacts into appropriate material categories, then subdividing as needed into smaller, functional and stylistic categories. Basic analytical studies include, but are not limited to:

a. Lithic analysis. This shall include a description of morphological, functional, and stylistic attributes, as well as the identification of raw material. Analysis shall also determine intrasite and local relationships.

b. Ceramic analysis. This shall include a description of morphological and stylistic attributes, and shall also identify intrasite and local relationships.

5. Conferences: Conferences shall be held in accordance with the Contract, Section C, 5.

6. Location and Description of the Study Area: A map showing the project location and construction areas shall be furnished to the Contractor by the Government. A Government representative familiar with the project location will accompany the Contractor during the initial project inspection.

7. Reporting:

7.1 Draft Report. The Contractor shall submit a draft report which shall be a complete and accurate representation of the final report. The report shall be a technical report of the results of the survey and geomorphological investigations and also shall include discussion of how the results of the work will contribute to the present understanding of the Illinois River valley culture history and the Corps landscape model. The draft (and final)

report shall include photographs and/or graphics which shall accurately show: 1) the location and topographic position of any sites recorded; 2) the location of subsurface cores and 3) the details of any features, profiles, artifacts, or any other cultural evidence. The draft report shall be typed and double spaced, and three (3) copies shall be provided to the COR. All pages shall be numbered. The draft shall be completely proofread so that it shall be free of typographic errors and other editorial deficiencies. Drawings, tables and other non-photographic illustrations shall appear in the same quality, size, format, and location in the draft report as they will be in the final report. Photographs shall not be enlarged and reproduced for the draft report. The Contractor shall submit contact prints with recommendations for those to be included in the final report to the COR. The COR will review these and select those to be included in the final report. The Contractor shall then be responsible for enlargement and reproduction according to the Contract Section C, 7.2.5.

7.2 Final Report. The final report shall be prepared in accordance with the Contract Section C, 7.2. Maps and drawings may be prepared using either mechanical or computer generated lettering and shall be in accordance with good drafting practice.

8. Government Furnished Information: The Government shall furnish to the Contractor the following items: (1) St. Louis District Report Format Requirements, (2) St. Louis District, Stump Lake Complex, Habitat Rehabilitation and Enhancement Project Final Definite Project Report, 2 volumes , (3) USGS 7.5 minute topographic map showing the project location, (4) St. Louis District Curation Standards, (5) Boring plans, (6) Survey Monuments (as needed). These items shall be forwarded under separate cover.

9. Contractor Capability: It is anticipated that the following personnel types may be required at some point during the completion of the delivery order: (1) Principal Investigator (1), (b) Field Supervisor (1), (c) Lab Supervisor (1), (d) Lab Assistant (1), (e) Field Archaeologist (3), (f) Geologist (1), (g) Clerical (1), (h) Data Processing Technician (1), and (i) Draftsman (1).

10. Publicity. Publicity shall be in accordance with the Contract Section C, 11.

11. Right-of-Entry. The land in the contract area is Federally owned.

12. Schedule of Work:

12.1 Post-Award Meeting. After the issuance of the delivery order, the Contractor (including the field supervisor and the principal investigator) shall meet with the COR and other Government representative(s) as appropriate. This conference will

take place within 7 calendar days after the date of the delivery order. At this meeting the COR will name other Government contacts as appropriate. The meeting shall take place in the St. Louis District office.

12.2 Meeting 2: This meeting shall occur at the approximate 50% completion point of field work and shall take place at the Stump Lake project area.

12.3 Meeting 3. This meeting shall occur at the completion of the artifact analysis/processing and prior to transmittal of The artifacts and documents to the Illinois State Museum. This meeting shall take place in the Contractor's office.

12.4 Field Work. All field work shall be completed within 45 calendar days of the award of the contract.

12.5 Analysis and Draft Report. Artifact analysis and draft report preparation shall be completed with 120 calendar days following award of the contract.

12.6 Review. Government review comments will be furnished to the Contractor within 30 calendar days after receipt of the draft report. The Government shall conduct coordination with the Illinois State Historic Preservation Officer and the Illinois Department of Conservation.

12.7 Final Report. The final report shall be submitted to the Government within 30 calendar days following receipt of the review comments.

13. Time Extensions. In the event the schedules in paragraph 12 above are exceeded due to causes beyond the control and without the fault or negligence of the Contractor, the contract will be modified in writing and the contract completion date will be extended one calendar day for each calendar day of delay.

14. Site Backfilling & Revegetation. The Contractor shall backfill all excavation units as soon as they have been recorded.

FILE COPY

April 27, 1994

Ms. Suzanne Harris
St. Louis District
U.S. Army Corps of Engineers
1222 Spruce Street
St. Louis, MO 63103

Re: Draft Report, Phase I Archaeological Survey, Stump Lake Complex. ARG CRM #396.

Dear Suzanne:

Enclosed please find three copies of the draft report for the above referenced project. Also enclosed is a copy of our progress billing for 90% of the total project amount. If you have any questions or need additional information, please don't hesitate to call.

Sincerely,

Michael J. McNerney
President

MJM:jb
Enclosures
cc: John Hallquist

APPENDIX B
Correspondence

Illinois Historic Preservation Agency

Old State Capitol • Springfield, Illinois 62701 • (217) 782-4836

217/785-4997

JERSEY COUNTY
Stump Lake Complex, Pool 26
Water control structures/boat ramp/access road

PLEASE REFER TO:
IHPA LOG #940713001PJY

August 8, 1994

Ms. Suzanne Harris
US Army Corps of Engineers, St Louis Dst
PDAE Section
1222 Spruce Street
St. Louis, Missouri 63103-2833

Gentlemen:

Thank you for requesting comments from our office concerning the possible effects of the project referenced above on cultural resources. Our comments are required by Section 106 of the National Historic Preservation Act of 1966, as amended, and its implementing regulations, 36 CFR 800: "Protection of Historic Properties".

We have reviewed the "Draft Report" A Phase I Archaeological Survey for Historic Properties Within the Stump Lake Complex, Habitat Rehabilitation Enhancement Project (HREP), Pool 26, Illinois River, Jersey County, Illinois and have the following comments:

1) It appears likely that significant cultural resources may be encountered on and/or within the buried natural levee which underlies about two-thirds of the proposed riverside levee.

2) It is our opinion that this buried soil horizon should be avoided by borrow/construction activities. Since the buried soil horizon can be encountered at a depth of 2.6 feet no more than 2.0 feet of soil should be removed.

3) The above referenced report adequately documents the lack of significant historic properties on the surface of and within the upper soil layer to 2.6 feet below surface, but does not adequately evaluate the two buried native surfaces below the recent silt deposits. Therefore if these buried soil horizons are avoided the above referenced report is adequate, but should avoidance of the buried deposits not be possible extensive Phase I/II subsurface reconnaissance to determnine the nature and extent of any potentially significant historic properties would be required.

Should you have any further questions, please contact Joseph S. Phillippe, Staff Archaeologist, Illinois Historic Preservation Agency, Old State Capitol, Springfield, Illinois 62701, 217/785-1279.

Sincerely,

Anne E. Haaker
Deputy State Historic
Preservation Officer

AEH:JSP

DEPARTMENT OF THE ARMY
ST. LOUIS DISTRICT, CORPS OF ENGINEERS
1222 SPRUCE STREET
ST. LOUIS, MISSOURI 63103-2833

REPLY TO
ATTENTION OF:

September 8, 1994

Planning Division
Environmental Planning Section

Mr. Joseph S. Phillippe
Illinois Historic Preservation Agency
Old State Capitol
Springfield, Illinois 62701

Dear Mr. Phillippe:

We are responding to your review comments (IHPA LOG #940713001PJY) on the draft report "A Phase I Archaeological Survey for Historic Properties within the Stump Lake Complex, Habitat Rehabilitation Project (HREP), Pool 26, Illinois River, Jersey County, Illinois" by Mark J. Wagner, Steve Titus and Jeffrey D. Anderson, American Resources Group, Ltd., Carbondale, Illinois and our determination of no effect for this project.

1. We concur that significant cultural resources may be encountered on and/or within the buried natural levee underlying a portion of the proposed riverside levee.

2. We concur that the buried soil horizons within the natural levee will be avoided by borrow/construction activities. However, as discussed in a telephone conversation between Ms. Suzanne E. Harris of my staff and you on September 2, 1994, we will limit these activities to 2.5 feet from the ground surface (rather that the 2.0 feet you recommended), except as specified below.

After you reviewed the draft report, the contractors provided us with more specific information on the locations and depths of recent post settlement alluvium (PSA) at each geomorphological test (enclosed). This additional information shows that the PSA extends to 3 feet below the surface within the proposed borrow trench, rather than the 2.6 to 3 feet stated in the draft report. The single coring (station 251) where PSA only extended to 2.6 feet below surface was made to clarify the geomorphology and was located outside the proposed construction corridor. At station 251 the PSA in the proposed borrow trench extends to 5.3 feet below surface. Therefore, we may extend the depth of the borrow to 2.5 feet below surface which will leave a .5 foot buffer above the buried soil horizon. In the unlikely event that sufficient borrow material cannot be obtained within 2.5 feet at some locations, we will have an archaeologist monitor the borrowing activities below 2.5 feet. If cultural material is encountered, the borrow excavation will not proceed any deeper.

3. The two buried soil horizons identified in the old Illinois River natural levee will be avoided except at the proposed pump station (consisting of one pump on the Illinois River and a second pump on Long Lake). However, the proposed pump location (station 205+00) was extensively tested by three backhoe trenches and six soil cores; no cultural material was encountered. Therefore, we have determined that no effect will occur to significant historic properties at the proposed pump station location. (The final report will clarify that these tests were made at the proposed pump station location.) All other proposed water control structures will be located on other landforms where these buried soils do not occur and where the PSA extends to 5 or 6 feet below the surface.

Given the project modification and the additional information provided above, the St. Louis District requests the concurrence of the Illinois State Historic Preservation Officer with our determination that no effect will occur to significant cultural properties as a result of this project.

If you have any questions, please contact Ms. Suzanne E. Harris of my staff at 314-331-8467.

Sincerely,

B. Hawickhorst
Acting Chief, Planning Division

Enclosure

Illinois Historic
Preservation Agency

Old State Capitol • Springfield, Illinois 62701 • (217) 782-4836

217/785-4997

PLEASE REFER TO:
IHPA LOG #940713001PJY

JERSEY COUNTY
Stump Lake Complex, Pool 26
Water control structures/boat ramp/access road

November 8, 1994

Ms. Suzanne Harris
US Army Corps of Engineers, St Louis Dst
PDAE Section
1222 Spruce Street
St. Louis, Missouri 63103-2833

Gentlemen:

Thank you for requesting comments from our office concerning the possible effects of the project referenced above on cultural resources. Our comments are required by Section 106 of the National Historic Preservation Act of 1966, as amended, and its implementing regulations, 36 CFR 800: "Protection of Historic Properties".

Our staff has reviewed the specifications and assessed the impact of the project as submitted by your office. We have determined, based on the available information, that this project, as proposed, will have no effect on any Historic Properties. We, therefore, have no objection to the undertaking proceeding as planned.

Please retain this letter in your files as evidence of compliance with Section 106 of the National Historic Preservation Act of 1966, as amended.

Sincerely,

Anne E. Haaker
Deputy State Historic
Preservation Officer

AEH:JSP